Cincom

AD/ADVANTAGE

MANTIS Administration Tutorial
OS/390, VSE/ESA

P39-5027-01

AD/Advantage MANTIS Administration Tutorial
OS/390, VSE/ESA

Publication Number P39-5027-01

Cincom Systems, Inc.
55 Merchant Street
Cincinnati, Ohio 45246-3732
U. S. A.

PHONE: (513) 612-2300
FAX: (513) 612-2000
WORLD WIDE WEB: http://www.cincom.com

Attention:

Some Cincom products, programs, or services referred to in this publication may not be available in all countries in which Cincom does business. Additionally, some Cincom products, programs, or services may not be available for all operating systems or all product releases. Contact your Cincom representative to be certain the items are available to you.

Release information for this manual

AD/Advantage MANTIS Administration Tutorial, OS/390, VSE/ESA, P39-5027-01, is dated October 30, 2001. This document supports Release 5.5.01 of MANTIS.

We welcome your comments

We encourage critiques concerning the technical content and organization of this manual. Please take the survey provided with the online documentation at your convenience.

Cincom Technical Support for AD/Advantage

All customers	Web:	http://supportweb.cincom.com
U. S. A. customers	Phone:	1-800-727-3525
	FAX:	(513) 612-2000 Attn: AD/Advantage Support
	Mail:	Cincom Systems, Inc. Attn: AD/Advantage Support 55 Merchant Street Cincinnati, OH 45246-3732 U. S. A.
Customers outside U. S. A.	All:	Visit the support links at http://www.cincom.com to find contact information for your nearest Customer Service Center.

Contents

About this book

Using this document

This tutorial provides you with a basic introduction to the tasks and functionality available to the MANTIS system administrator and Master User. It provides an overview of:

- MANTIS Master User facilities
- Frequently-used Master User utilities
- MANTIS configuration and customization options
- Advanced programming techniques

For more detailed information on these topics, refer to *MANTIS Administration, OS/390, VSE/ESA*, P39-5005.

Some of the features and functions described in this tutorial may not be available on your system.

This manual is intended to show you the basics of MANTIS administration so that you can apply them to your data processing environment. It is designed to assist MANTIS administrators who:

- Are installing MANTIS for the first time
- Are assuming responsibility for a MANTIS system that is already installed
- Want to review and refresh their knowledge of the MANTIS administration functions

Exercises appear at the end of some chapters. Take your time with the lessons and follow directions carefully.

Document organization

The information in this manual is organized as follows:

Chapter 1—Introduction

Provides a brief description of MANTIS (including sign-on and sign-off instructions), discusses considerations for the Master User, and introduces the Burrys application scenario that is used as the basis for this tutorial.

Chapter 2—Creating user profiles

Describes how to create the user profiles that allow users to access MANTIS, and how to customize the default parameters that define the PF keys and options for each dialog of the system. The user profile that is required to create the Burrys application is presented as an exercise.

Chapter 3—Using the MANTIS utilities

Describes the utilities that MANTIS provides to help you maintain your system, and shows you how to run utilities to display terminal counts, add extended entity profile records (EEPR) for all users, and display program statistics.

Chapter 4—Copying MANTIS Entities

Introduces you to the Transfer Facility, then guides you step-by-step through the process of transferring the Burrys customer accounting system entities from the BURRYS user to the ACCOUNTS user. As an exercise, you learn how to sign on as another user and verify that the entities were transferred.

Chapter 5—Customizing MANTIS sign-on, facilities, and termination

Explains how to customize sign-on procedures, MANTIS facilities, and sign-off procedures; then shows you step-by-step how to modify the facility menu for the ACCOUNTS user.

Chapter 6—Using mixed case in MANTIS

Presents the basic concepts of MANTIS mixed case support, and guides you step-by-step through two methods for enabling mixed case support in the Screen Design Facility and the Prompter Design Facility.

Chapter 7—MANTIS and non-MANTIS programs working together
Explains how MANTIS and non-MANTIS programs work together, then guides you step-by-step through creating a special “back door” access to the MASTER user that will allow you to sign on to MANTIS in the event that problems occur.

Chapter 8—Using the MANTIS Code Patch Utility
Shows you how to use the MANTIS Code Patch Utility to apply a patch to MANTIS source code.

Chapter 9—What’s next?
Summarizes this tutorial and provides references to further information on topics of interest.

Index

Conventions

The following table describes the conventions used in this document series:

Convention	Description	Example

`Constant width type`	Represents screen images and segments of code.	`Screen Design Facility`
		`GET NAME LAST`
		`INSERT ADDRESS`

Yellow-highlighted, red code or screen text	Indicates an emphasized section of code or portion of a screen.	`00010 ENTRY COMPOUND`
		`00020 .SHOW"WHAT IS THE CAPITAL AMOUNT?"`
		`00030 .OBTAIN INVESTMENT`
		`00040 EXIT`

Slashed b (ø)	Indicates a space (blank). The example indicates that a password can have a trailing blank.	`WRITEPASSø`
Brackets [ ]	Indicate optional selection of parameters. (Do not attempt to enter brackets or to stack parameters.) Brackets indicate one of the following situations.	
	A single item enclosed by brackets indicates that the item is optional and can be omitted. The example indicates that you can optionally enter a program name.	`COMPOSE [program-name]`
	Stacked items enclosed by brackets represent optional alternatives, one of which can be selected. The example indicates that you can optionally enter NEXT, PRIOR, FIRST, or LAST. (NEXT is underlined to indicate that it is the default.)	**NEXT** **PRIOR** **FIRST** **LAST**

Convention	Description	Example
Braces { }	Indicate selection of parameters. (Do not attempt to enter braces or to stack parameters.) Braces surrounding stacked items represent alternatives, one of which you must select. The example indicates that you must enter FIRST, LAST, or a value for *begin*.	**FIRST** ***begin*** **LAST**
Underlining (In syntax)	Indicates the default value supplied when you omit a parameter. The example indicates that if you do not specify ON, OFF, or a row and column destination, the system defaults to ON.	**SCROLL** [**ON** **OFF** [***row***][,***col***]]
	Underlining also indicates an allowable abbreviation or the shortest truncation allowed. The example indicates that you can enter either PRO or PROTECTED.	PROTECTED
Ellipsis points...	Indicate that the preceding item can be repeated. The example indicates that you can enter (A), (A,B), (A,B,C), or some other argument in the same pattern.	(*argument*,...)

Convention	Description	Example
UPPERCASE	Indicates MANTIS reserved words. You must enter them exactly as they appear. The example indicates that you must enter CONVERSE exactly as it appears.	`CONVERSE name`
Italics	Indicate variables you replace with a value, a column name, a file name, and so on. The example indicates that you can supply a name for the program.	`COMPOSE [program-name]`
Punctuation marks	Indicate required syntax that you must code exactly as presented. ( ) parentheses . period , comma : colon ; semicolon ' single quotation mark " " double quotation marks	[LET]$_V$ $\begin{bmatrix}(i)\\(i,j)\end{bmatrix}$ [ROUNDED(n)] = $e1$ [, $e2, e3 \ldots$]

MANTIS documentation series

MANTIS is an application development system designed to increase productivity in all areas of application development, from initial design through production and maintenance. MANTIS is part of AD/Advantage, which offers additional tools for application development. Listed below are the manuals offered with MANTIS in the IBM® mainframe environment, organized by task. You may not have all the manuals listed here.

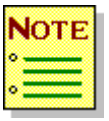
MASTER User tasks

- *MANTIS Installation, Startup, and Configuration, MVS/ESA, OS/390,* P39-5018
- *MANTIS Installation, Startup, and Configuration, VSE/ESA,* P39-5019
- *MANTIS Administration, OS/390, VSE/ESA*, P39-5005
- *MANTIS Messages and Codes, OS/390, VSE/ESA*, P39-5004*
- *MANTIS Administration Tutorial, OS/390, VSE/ESA,* P39-5027
- *MANTIS XREF Administration, OS/390, VSE/ESA*, P39-0012

General use

- *MANTIS Quick Reference, OS/390, VSE/ESA*, P39-5003
- *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001
- *MANTIS Language, OS/390, VSE/ESA*, P39-5002
- *MANTIS Program Design and Editing, OS/390, VSE/ESA*, P39-5013
- *MANTIS Messages and Codes, OS/390, VSE/ESA*, P39-5004*
- *AD/Advantage Programming*, P39-7001
- *MANTIS DB2 Programming, OS/390, VSE/ESA*, P39-5028

- *MANTIS SUPRA SQL Programming, OS/390, VSE/ESA*, P39-3105
- *MANTIS XREF, OS/390, VSE/ESA, OpenVMS*, P39-0011
- *MANTIS Entity Transformers*, P39-0013
- *MANTIS DL/I Programming, OS/390, VSE/ESA*, P39-5008
- *MANTIS SAP Facility, OS/390, VSE/ESA*, P39-7000
- *MANTIS WebSphere MQ Programming*, P39-1365
- *MANTIS Application Development Tutorial, OS/390, VSE/ESA*, P39-5026



Manuals marked with an asterisk (*) are listed twice because you use them for both MASTER User tasks and general use tasks.

Educational material

AD/Advantage and MANTIS educational material is available from your regional Cincom education department.

1

Introduction

MANTIS is a comprehensive application development system that is designed to increase productivity in all areas of application development—from initial design through production. By providing a high-level programming language and facilities for creating MANTIS entities (screens, files, etc.), MANTIS enables users to design applications interactively without having to use coding sheets, job control statements, source decks, or compilers and translators.

The MANTIS Program Design Facility offers several features that simplify program development and maintenance. Included are system-controlled date and time stamps for program maintenance, extended program profile information, online help screens, wild card processing, automated operations using a trigger file, and both a menu-driven and command-driven design.

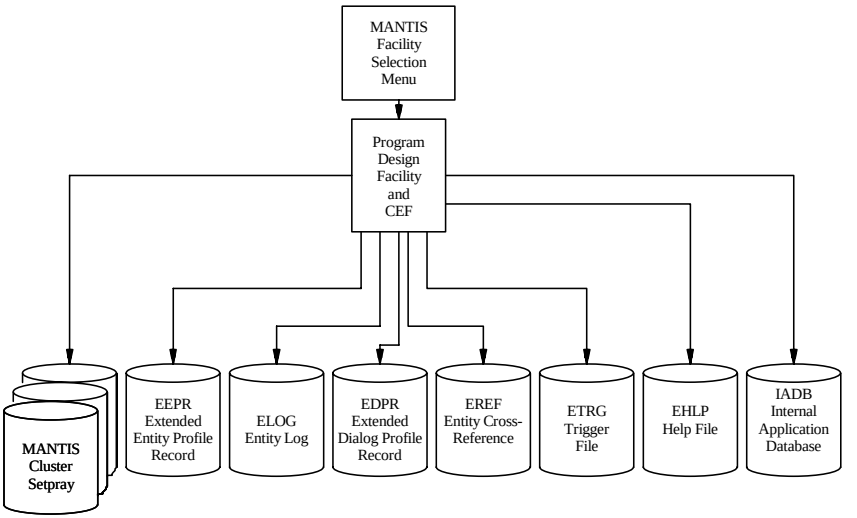
This tutorial describes the basic tasks that the MANTIS system administrator performs, and discusses some of the most frequently used utilities that are available only to the Master User, such as setting up user profiles (including PF keys and options), altering sign-on and termination, and initiating mixed case support. Information is also provided on using MANTIS utilities to maintain files and internal entity codes, display program statistics, transfer entities, and apply patches to MANTIS design facility programs.

Understanding the MANTIS operating environment

MANTIS uses one load module and one VSAM KSDS file for its library. MANTIS dynamically allocates space for individual users in the operating space, independent of other system processing. In addition, MANTIS can use up to ten external VSAM files to support general design facilities and the Component Engineering Facility (CEF).

Each task that signs on to MANTIS is initially allocated virtual storage, which increases or decreases dynamically as individual requirements change.

The following figure shows the MANTIS development architecture:



MANTIS appears to CICS as a normal application task. It consists of one load module that runs in either conversational or pseudo-conversational mode, and one global data area anchor module.

Understanding MANTIS auxiliary support files

When MANTIS is installed, up to ten external files are necessary to support the functions of the system. These files are described in the following table:

Default name	Description
EEPR	**Extended entity profile record.** Provides extended program profile information, including library, program name, description, status, type, version, date and time of last change, and date and time when the last action was issued on a program. These records are created, deleted, and updated when you issue an action on a program. This file is required in the development environment.
EDPR	**Extended dialog profile record.** Makes system actions available to the user and gives the Master User flexibility and control over user and system defaults. These records are updated by the Master User commands KEYS and OPTN. This file is required in the development environment.
EHLP	**Extended Help.** Contains system help information for each function in the Program Design Facility. These records are supplied at installation and cannot be changed. This file is not required in any environment. However, if this file is not available, a Not Found pop-up window will display when Help is requested.
ELOG	**Entity log.** Shows a record of program activity created when a user issues an action on a program. These records display in the Audit Trail List. However, the user profile option, Log CEF Operations, turns the entity log on and off for individual users. This file is not required if Log CEF Operations is set to No for all users.

Default name	Description
EREF	**Extended cross-reference.** Contains the records that were built with the CREF (Cross-Reference) action. You can view these records on the Bill of Materials List and Component Where Used List. The EREF records are defined when you issue the CREF action. This file is only required if you use the Component Cross Reference feature of Component Engineering.
ETRG	**Trigger file.** Holds a record of the action that a user has issued for later online or batch processing. These records are created when you set the Entry Option Immediate? field to No before issuing an action. This file is always required for installation and will be required if you use the Online Triggering Facility or the Batch Dialog Facility.
IADB	**Internal application database.** Holds internal application records for the Shared Pool Nomination/ Running List. These records are created, deleted, and updated when maintaining, loading, or purging the running Shared Pool. This file is required if you use the Shared Pool Facility, or have limited terminal support.
CSOL	**Background task log file.** Holds log records indicating the start and end of background tasks, and any errors that might have occurred. This file is required if you use the Shared Pool Option, or if you run background MANTIS tasks.
EXPCLU	**Universal Export file.** Contains MANTIS entities that have been exported from a MANTIS cluster. This file is required if you use the Universal Export Facility.
EXPLOG	**Universal Export log file.** Contains records indicating the success or failure of importing or exporting MANTIS entities using the Universal Export Facility. This file is required if you use the Universal Export Facility.

You can alter the default file names for your environment by using the Set External File Names utility. To access this utility, select the MANTIS Utilities option from the MASTER Facility Selection menu.

You can also find external file views of the auxiliary support files on the MASTER user. You can create MANTIS programs to produce reports on these files.

Considerations for the Master User

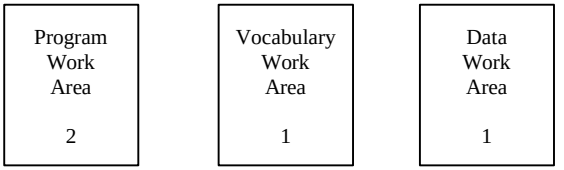
The following sections provide an overview of considerations that can affect the way that you use MANTIS in your environment. For more detailed information on any of the options discussed in this section, refer to *MANTIS Administration, OS/390, VSE/ESA*, P39-5005.

Some of the features and functions described in this section may not be available on your system.

Reentrant MANTIS programs and the Shared Program Pool

MANTIS programs are reentrant, allowing all tasks executing the same program to use the same copy of the program. This eliminates redundant programs and conserves memory.

The following figure shows the Program Work Area that contains only the non-changing program code, allowing reentrant programs:

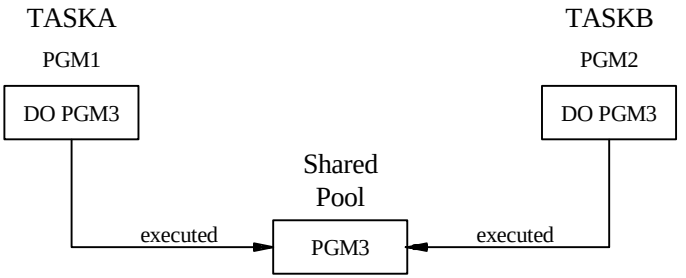


1. Changes during execution

2. Does not change during execution (reentrant code)

In order for you to take advantage of the reentrancy of MANTIS programs, you must have the High Performance Option, which includes the Shared Program Pool.

All MANTIS programs executed from the Shared Pool are reentrant. The following figure demonstrates how the Shared Pool works:



With reentrant programs, program data is stored in your Data Work Area, and you execute the program stored in the Shared Pool. You can have an unlimited number of programs in the Shared Pool.

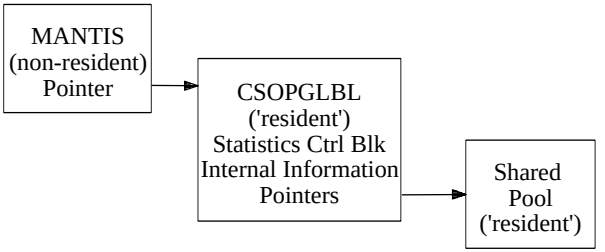
Shared programs are stored and displayed alphabetically for easier management by the Master User. Usage statistics are kept on entities in the Shared Pool. You can also specify the number of nonshared entities for which you wish to keep statistics.

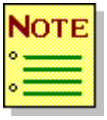
You can load DL/I qualified and unqualified call profiles into the Shared Pool, eliminating enqueuing and searching tables, and writing to temporary storage.

The Shared Pool can be built by a CICS background task that is started from the Program Load Table (PLT).

MANTIS residency

In CICS, MANTIS can run nonresident (RES=NO) and can be NEWCOPYed. Global areas and pointers are stored in a separate program named CSOPGLBL. CSOPGLBL becomes resident when MANTIS LOADs it with the HOLD option. After a NEWCOPY of MANTIS, the LOAD for CSOPGLBL locates the already resident CSOPGLBL, as in the following figure:





CSOPGLBL must not be NEWCOPYed, deleted, or released. If CSOPGLBL is NEWCOPYed, all current MANTIS tasks will abend with an error code of MANG.

When running more than one MANTIS under a single CICS session, you can change the name of CSOPGLBL by using the Customization Macro parameter, GLBLMOD=name.

User exits

Two user exits are available on the MASTER user to toggle uppercase translation on or off in option 1 of the Screen Design Facility and the Prompter Design Facility. For more information on using these exits, refer to chapter 6, “Using mixed case in MANTIS” on page 107.

The following additional user exits are available for customizing MANTIS processing (these exits are not available in MANTIS Special Edition):

- The Split SETPRAY exit allows processing of a MANTIS cluster that was split into multiple data sets.
- The External File exit permits authorization or other checking and reporting to occur during external file access.
- The Printer and Terminal Output exits permit data to be captured or modified for printer or terminal output.
- The Program Load exit permits authorization and statistics to be gathered for programs being loaded.
- The String Comparison exit permits data in text strings to be compared equal, or collated as desired when the data contains accented or non-Roman characters, or mixed data that does not collate in EBCDIC (Extended Binary Code Decimal Integer Code) order.

Load module size

All MANTIS facilities are separated so only those required for a given environment need to be included in the MANTIS load module. For example, if a system does not require certain MANTIS facilities or SUPRA RDM support, a MANTIS load module can be created that does not include those functions.

String comparison

Strings can be compared character-by-character on actual content regardless of length, or checked first by length, followed by a check for content. You can set the default comparison method in the Customization Macro. A user exit is also available for string comparisons of non-Roman, accented characters, and mixed-data text (for example, text and DBCS characters).

Date and time formats

Alternate formats for date, time, and 4-digit year capabilities are allowed. You can specify a mask for date and/or time in your program. The mask allows *MM* for month, *YY* or *YYYY* for year, *DD* for day of the month, and *DDD* for Julian date. For time, *HH*, *MM*, *SS*, and AM (displays AM/PM) are allowed. The format also allows alternate delimiters and substringing of date and time (for more information, refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002). You can specify system-wide default masks in the Customization Macro, which are in effect unless another mask is specified in your program.

Optimal temporary storage usage

MANTIS usually writes temporary storage records 32K long. Depending on the device type used for temporary storage, use a CISIZE as large as possible (up to 32K) to optimize performance.

For later releases of CICS and the Transaction Server, main temporary storage is acquired above the 16MB line. Eliminating auxiliary temporary storage can improve performance.

Paired TRANSIDs

Paired TRANSIDs ensure correct re-initialization following an abend or LOSTTERM condition. System Administrators are strongly encouraged to set up at least one TRANSID pair. The accuracy of a task re-initialized following an abend or LOSTTERM cannot be guaranteed unless paired TRANSIDs are used.

Although paired TRANSIDs are designed to ensure correct re-initialization in pseudo-conversational mode, they have implications for printer and background tasks. (For detailed instructions on setting up paired TRANSIDs, refer to *MANTIS Administration, OS/390, VSE/ESA*, P39-5005.)

MANTIS above the 16 MB line

MANTIS can execute above the 16 MB line, freeing memory below the line for other applications. AMODE, addressing mode, is the address length MANTIS is prepared to handle. Values for AMODE are 24, 31, and ANY with a default of 24. RMODE, residency mode, specifies where MANTIS is expected to reside. Values for RMODE are 24 and ANY with a default of 24.

The link-edit statement AMODE(31),RMODE(ANY), located in the linkdeck, puts MANTIS above the 16 MB line, if possible, and in 31-bit addressing mode. If you do not want MANTIS to reside or acquire storage above the 16MB line, remove the MODE statement from your MELMANT linkdeck (OS/390) or your MDLMANT.A linkdeck (VSE/ESA). (For more detailed information on running MANTIS above the 16 MB line, refer to *MANTIS Administration, OS/390, VSE/ESA*, P39-5005.)

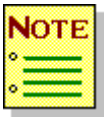
Mixed case support

MANTIS screens, prompters, programs, and error messages can be designed with uppercase and lowercase characters. TEXT variables can also contain mixed case data. For more detailed information on mixed case support, see “Using mixed case in MANTIS” on page 107.

Customization Macro

The MANTIS Customization Macro allows you to specify custom parameters beyond the normal operation of MANTIS. If the default values are satisfactory for your installation, you do not need to change any parameters in the Customization Macro.

You modify the default macro for each MANTIS that you want to customize, then assemble and link it as part of your installation. You can have different customizations for different copies of MANTIS (such as batch vs. online, or test vs. production).



If you make a change to the Customization Macro, you must reassemble and relink MANTIS. (For detailed instructions on using the Customization Macro, refer to *MANTIS Administration, OS/390, VSE/ESA*, P39-5005.)

Printing options: PRTRANS and PRTDISC

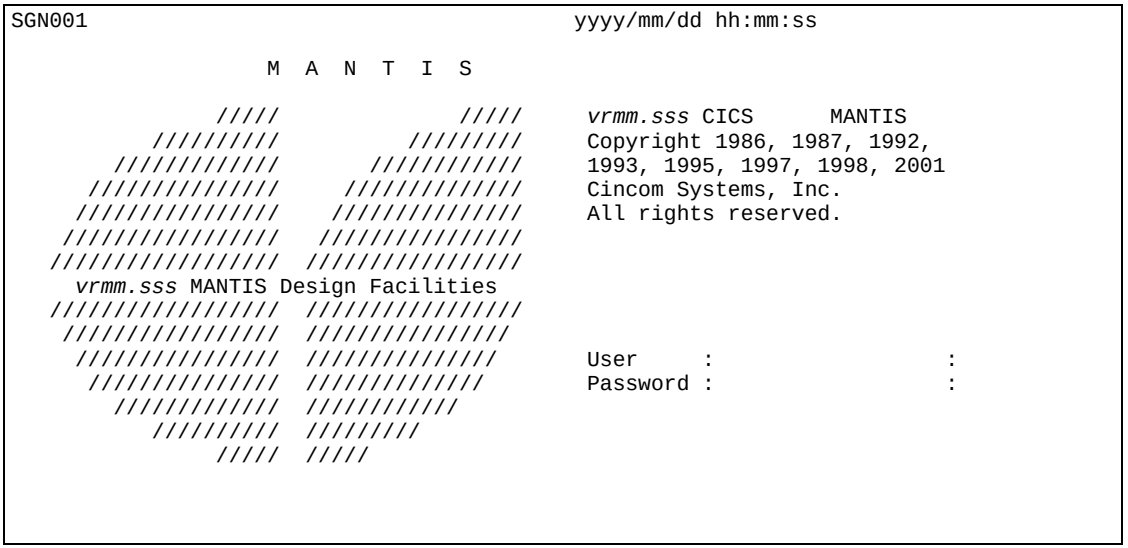
The parameter PRTRANS= in the Customization Macro enables you to specify a transaction ID to be used exclusively for printer tasks. You may want to do so for security or accounting purposes.

The parameter PRTDISC disconnects a printer used for a MANTIS print task from CICS when the task is completed (VTAM only).

Signing on to MANTIS

To sign on to MANTIS, obtain the valid transaction ID for MANTIS, and the valid MASTER user password from your installation instructions.

When you enter the transaction ID, the sign-on screen appears as shown in the following screen (unless you have changed the Cincom logo to another display):

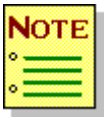


Enter MASTER in the USER field, and your MASTER user password in the PASSWORD field; then, press ENTER. You are signed on to MANTIS and your Facility Selection menu appears.

The following screen illustration shows the MASTER Facility Selection Menu that is provided with MANTIS:

```
FACILMENU01       MANTIS Facility Selection Menu (MASTER)       YYYY:MM:DD
                                                                  HH:MM:SS
 Please select one of the menu options below.

___       Run a Program by Name  ......  1  Sign On as Another User  .... 13
          Display a Prompter  .........  2  Set Preferred Terminals  .... 14
          Design a Program  ...........  3  Directory Facility  ......... 15
          Design a Screen  ............  4  DL/I Access View  ........... 16
          Design a MANTIS File View  ..  5  Shared Pool Facility  ....... 17
          Design a Prompter  ..........  6  Query Report Writer  ........ 18
          Design a User Profile  ......  7  Print Facility  ............. 19
          Design an Interface  ........  8  Cross Reference Facility  ... 20
          Design a TOTAL File View  ...  9  Entity Transformers  ........ 21
          Design an External File View  10  Universal Export Facility  .. 22
          Transfer Facility  .......... 11  Search Facility  ............ 23
          MANTIS Utilities  ........... 12




 F1=HELP  F3=EXIT  F12=CANCEL
```

The MASTER Facility Selection Menu lists the facilities that are available to the Master User. This menu includes additional capabilities that non-MASTER users, such as programmers or end-users, do not have.



If your MASTER Facility screen has been customized for your site, it may look different.

The cursor appears in the action field. To access a facility from the menu, enter the number of the facility in the action field; then, press ENTER.

Signing off MANTIS

To sign off, press the CANCEL key until you exit MANTIS.

On a 3270 terminal, the PA2 key is equivalent to the CANCEL key, which returns you to a higher screen. However, the CANCEL key may be different for your installation.

You can sign off at any time during the tutorial session. But, before you do, be sure to save or replace any design work through the library functions in the facility where you are currently working.

If you forget to save your work, you will receive a message “UNSAVED CHANGES EXIST – USE CANCEL TO CONTINUE WITH TERMINATION.”

When you are ready to begin again, use the start-up procedure in “Signing on to MANTIS” on page 27. Then, if you are continuing work on an existing design, use the library functions of the corresponding design facility to fetch the design into your work area.

Introduction to the Burrys scenario

This tutorial and the accompanying *MANTIS Application Development Tutorial, OS/390, VSE/ESA*, P39-5026, are based upon a case study for a fictitious corporation named “Burrys,” an electrical goods retailer with branches in various parts of the country.

In the *MANTIS Application Development Tutorial* scenario, Burrys branch managers have requested, and received approval for, an online, automated system that will allow them to access the corporate database. The system will enable managers to request customer information and add new customers to the database.

Burrys has chosen MANTIS as its application development system. The prototyping capability and ease of use of MANTIS will minimize the time and cost of developing and implementing the system.

In chapter 2 of this tutorial, you will create the BURRYS user where the customer accounts system will be developed. Subsequent chapters of this tutorial assume that you have completed the exercises in the *MANTIS Application Development Tutorial,* and created the screens, files, prompter, and programs that comprise the Burrys customer accounts system.

2

Creating user profiles

This chapter shows you how to create the user profiles that allow users to access MANTIS. You'll also learn how to customize the default parameters that define the PF keys and options for each dialog of the system.

Learning outline

In this chapter you will learn how to:

- Create a user profile
- View the directory of user profiles
- Update Extended Dialog Profile Records (EDPRs) to change the system-wide defaults for the Full-Screen Editor
- Copy an EDPR to an individual user and update the dialog settings for that user
- Display and interpret the user map
- Show the user names and user codes for all users on the MANTIS cluster

Basic concepts: Understanding MANTIS user profiles

Each MANTIS user has a profile that contains a valid sign-on name and password, and controls the options that each user can access. The maximum number of user names that MANTIS accepts is 238.

A MANTIS user can be assigned to an individual, or to a group of people doing related work and having related authority. A user profile may be assigned to either a programmer, or an end-user in the department that is using the finished application. If you are using AD/Advantage, a separate personal ID exists for individuals, and personal IDs are grouped under a MANTIS group ID. (For more information on defining AD/Advantage personal IDs, refer to *MANTIS Administration, OS/390, VSE/ESA*, P39-5005.)

The User Profile Design Facility lets you create and save new user profiles, and perform maintenance functions on existing user profiles. The following table describes each user profile design option:

Option	Description
Insert a new user profile	Creates a new user profile.
Inspect an existing user profile	Displays an existing user profile. (You cannot make updates if you select this option.)
Alter an existing user profile	Updates an existing user profile or customizes a default user profile for your installation.
Directory of users	Displays the list of all user profiles, including the user name, password, and a description of the user.
Print user profile	Prints a hard copy of the specified user profile. (Output is routed to your designated printer.)
Delete user	Deletes an existing user profile.
Maintain user PF keys and options	Changes PF key assignments for a specific user, or sets default values for the Entry Options and Function Options on specific parameter entry screens.

Option	Description
Create extended program profiles	Creates the Extended Entity Profile Records (EEPRs) that contain program directory information for a specific user. This information builds the user's Program Directory List that is seen in the Program Design Facility.
Purge extraneous program profiles	Purges any extraneous Extended Entity Program Profile Records (EEPRs) that do not have a matching program in the user's directory.
Display user map	Displays the user map.
Show user names and codes	Displays the user names and internal codes.
Show valid language codes	Displays the valid language codes that can be specified for a user.
Terminate this facility	Returns you to the Facility Selection menu.

MANTIS provides a special user named PROFILE_DEFAULTS. The profile values for this user are the same default values you see when defining a new user. If you alter any values on the PROFILE_DEFAULTS user, your changes appear automatically whenever you choose the Insert a new user profile option to define a new user.

The PROFILE_DEFAULTS user also controls the system-wide default parameters for the MANTIS Program Design Facility. These parameters are among those specified in the Extended Dialog Profile Records (EDPR) that define default PF keys and options for each dialog of the system.

Extended Dialog Profile Records provide system-wide control over the PF keys and options for all users. You can use the User Profile Design Facility to modify the values of PF keys, Entry Options, and Function Options for any EDPR under the PROFILE_DEFAULTS user.

In addition to supplying a complete EDPR set in the PROFILE_DEFAULTS user, Cincom supplies another complete set of records (identical to those on the user PROFILE_DEFAULTS) under the reserved user named CONTROL. As the Master User, you can copy these backup records to another user where they can be changed, but you cannot change the records on the CONTROL user. The backup records ensure that you can reset any user (including PROFILE_DEFAULTS) to the original Cincom-supplied values.

After you create a new user with the PROFILE_DEFAULTS parameters, you can customize the default parameters for an individual user by copying the EDPR from PROFILE_DEFAULTS to that user and then modifying PF keys, Entry Options, and Function Options individually for the user. (Instructions for customizing the default parameters for an individual user are discussed in "Step 4: Copying the Extended Dialog Profile Record (EDPR)" on page 43.)

You can also use EDPRs to restrict certain actions to specific users. (For instructions on restricting actions to specific users, see "Step 3: Changing the system-wide Full-Screen Editor options" on page 39.)

Step-by-step: Creating a MANTIS user

Now that you understand some basic concepts for MANTIS user profile design, you're ready to create a user profile.

To access the User Profile Design Facility, type 7 in the action field on the Master Facility Selection menu and press ENTER. The following screen displays:

```
USR001
                              M  A  N  T  I  S

                         User Profile Design Facility

               Name of user  ..................... :                  :

                   Insert a new user profile  ............   1
                   Inspect an existing user profile  .....   2
                   Alter an existing user profile  .......   3
                   Directory of users  ...................   4
                   Print user profile  ...................   5
                   Delete user  ..........................   6
                   Maintain user PF keys and options  ....   7
                   Create extended program profiles  .....   8
                   Purge extraneous program profiles  ....   9
                   Display user map  .....................  10
                   Show user names and codes  ............  11
                   Show valid language codes  ............  12
                   Terminate this facility  ..........  CANCEL

                                    :    :
```

In the Name of user field, specify a name for the user profile (1-16 alphanumeric characters, with no spaces). After supplying a user name, you select an option by pressing the corresponding PF key, or by typing the option number and pressing ENTER.

Step 1: Inserting a new user profile

You need to create a user named ACCOUNTS, that the Accounting Department will use to access the new customer accounting system.

To insert the new user profile, type ACCOUNTS in the Name of user field on the User Profile Design Facility menu, then type 1 in the action field and press ENTER. The following screen displays:

```
USR003
                          M  A  N  T  I  S

                    User Profile Design Facility
          Name and description of User  ...........  ACCOUNTS
          DEFAULT USER PROFILE PARAMETERS
          Password ..............................  ALIBABA
          Facility Program ......................  MASTER:START_FACILITY
          Status  ...............................  ACTIVE
          Statements per Slot  ..................  5000
          Slots before interrupt  ...............  20
          Associated Printer  ....................
          Printer Exit name  .....................
          Conversational mode (CICS only)  ........  NO
          Middle East Countries Terminal  .........  NO
          Language Code  .........................  ENU
          Automatic open of TOTAL files  ..........  NO
          Decimal Point  .........................  .
          Restrict design of TOTAL views  .........  NO
             "        "    " External file views  .  NO
          Log CEF operations  ....................  NO
          CEF statement/source default character  .  @
          Internal User code  .................Dec:      Hex:

FACU04A:Press ENTER to update, CANCEL key to cancel change and exit
```

MANTIS displays the name that you entered on the User Profile Design Facility menu, along with the default values for the remaining fields.

The default user description DEFAULT USER PROFILE PARAMETERS appears directly below the Name and description of User field. Overtype the default description with the following description:

```
BURRYS CUSTOMER ACCOUNTS DEPT
```

Type the password BURRYS in the Password field. (Use the Erase EOF key to erase the extra characters.) Trailing blanks are permissible in user passwords.

If you would like to designate a printer for the ACCOUNTS user, you can enter the name of a VTAM printer (for example, PRN1) in the Associated Printer field, if the printer is available to CICS. (The printer name is optional.)

Your screen should look like this:

```
                          M  A  N  T  I  S

                    User Profile Design Facility
            Name and description of User  ..........  ACCOUNTS
            BURRYS CUSTOMER ACCOUNTS DEPT
            Password ..............................  BURRYS
            Facility Program ......................  MASTER:START_FACILITY
            Status  ...............................  ACTIVE
            Statements per Slot  ..................  5000
            Slots before interrupt  ...............  20
            Associated Printer  ...................  PRN1
            Printer Exit name  ....................
            Conversational mode (CICS only)  ......  NO
            Middle East Countries Terminal  .......  NO
            Language Code  ........................  ENU
            Automatic open of TOTAL files  ........  NO
            Decimal Point  ........................  .
            Restrict design of TOTAL views  .......  NO
              "        "    " External file views  .  NO
            Log CEF operations  ...................  NO
            CEF statement/source default character  .  @
            Internal User code  .................Dec:      Hex:

FACU04A:Press ENTER to update, CANCEL key to cancel change and exit
```

Press ENTER to accept the default values for the remaining fields, and define the user to MANTIS. (For more information on the other fields on this screen, refer to *MANTIS Administration, OS/390, VSE/ESA*, P39-5005.)

MANTIS returns to the User Profile Design Facility menu and displays a message confirming that the user ACCOUNTS has been inserted.

Step 2: Viewing the directory of users

Use the Directory of users option to display an alphabetic listing of all existing user profiles. This list includes the user name, the user password, and the description that you entered when you created the user profile.

Select the Directory of users option from the User Profile Design Facility menu by entering 4 in the action field and pressing ENTER, or by pressing PF4. MANTIS displays the directory of users:

```
DIR002                        Directory of USERS                        YYYY/MM/DD
MASTER                                                                    HH:MM:SS
 ------Name------ ----Password---- --------------Description----------------
ACCOUNTS          BURRYS           BURRYS CUSTOMER ACCOUNTS DEPT
```

This directory lists all the users that are currently defined to MANTIS. In addition to the ACCOUNTS, EXAMPLES, and MASTER users, you will see several other users in this directory list. MANTIS reserves these users for its own use.

Press ENTER to return to the User Profile Design Facility menu.

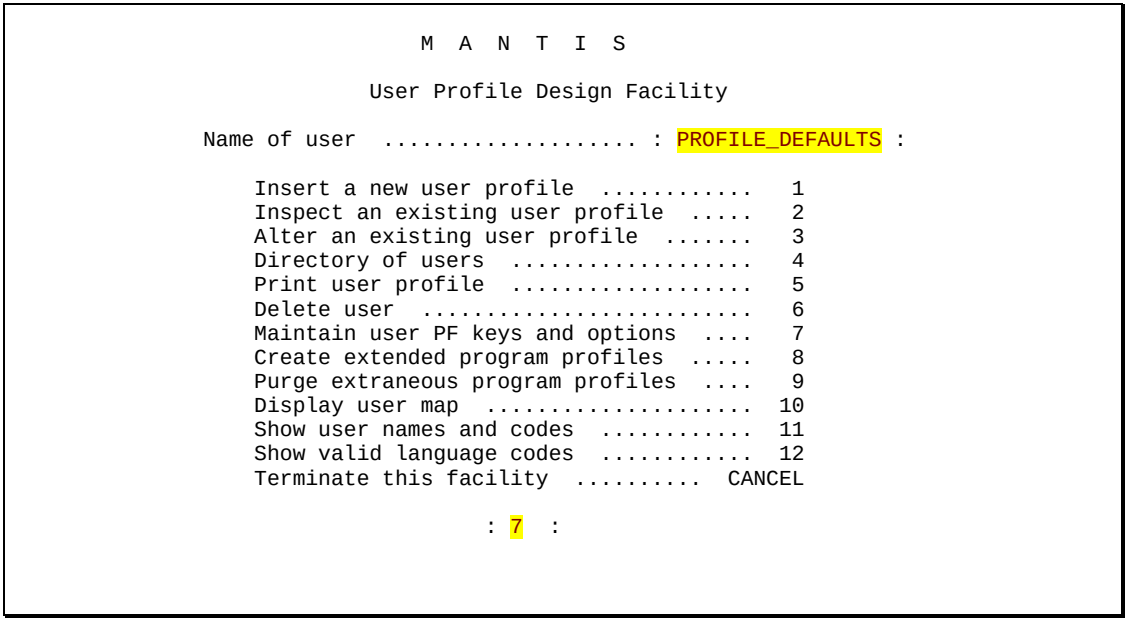
Step 3: Changing the system-wide Full-Screen Editor options

You use the User Profile Design Facility to perform option maintenance for the Full-Screen Editor (FSE), the facility used by MANTIS programmers to edit and test programs. These options (Scroll Amount, Nulls On, etc.) are what users see when they enter PROFILE while in the Full-Screen Editor. Changes that you make are permanent; changes that users make while in the Full-Screen Editor are temporary, and are reset at the end of the session.

The default scroll value for FSE is PAGE, which means that when a user presses PF8 or PF20, or enters the DOWN command on the FSE command line, FSE scrolls the program listing down 20 lines (on a 24 x 80 terminal), beginning with the line that is currently displayed at the bottom of the terminal window.

You want to change this setting on a system-wide basis, so that when the user issues the DOWN command, FSE will scroll down to the line where the cursor is positioned.

To make this change, you need to update the settings for the PROFILE_DEFAULTS user. To do so, enter PROFILE_DEFAULTS in the Name of user field on the User Profile Design Facility menu:



Select Maintain user PF keys and options by typing 7 in the action field and pressing ENTER, or by pressing PF7. The Dialog Directory List displays:

```
EDPRLIST01      Dialog Directory List (PROFILE_DEFAULTS)  YYYY/MM/DD HH:MM:SS
===> L ADOP_PRGM_EDIT
User   .   .   PROFILE_DEFAULTS
Action    Dialog Id                          Status   Description
--------- ---------------------------------  -------- ------------------------
__________ ADOP_EDPR_COPY                    ACTIVE    COPY Dialog Profile Entry
__________ ADOP_EDPR_DELETE                  ACTIVE    DEKETE Dialog Profile Ent
__________ ADOP_EDPR_KEYS                    ACTIVE    KEYS Dialog Profile Entry
__________ ADOP_EDPR_LCASE                   ACTIVE    Update Dialog Profile (LC
__________ ADOP_EDPR_LIST                    ACTIVE    Dialog Directory List
__________ ADOP_EDPR_MAINT                   ACTIVE    Update Dialog Profile (UC
__________ ADOP_EDPR_OPTN                    ACTIVE    OPTN Dialog Profile Entry
__________ ADOP_EDPR_RENAME                  ACTIVE    RENAME Dialog Profile Ent
__________ ADOP_EDPR_UPDATE                  ACTIVE    UPDATE Dialog Profile Ent
__________ ADOP_EHLP_LIST                    ACTIVE    Help Directory List
__________ ADOP_EHLP_UPDATE                  ACTIVE    UPDATE Help Profile
__________ ADOP_ELOG_BROWSE                  ACTIVE    BROWSE Audit Trail Record
__________ ADOP_ELOG_LIST                    ACTIVE    Audit Trail List
__________ ADOP_EREF_LIST                    ACTIVE    Bill of Materials List
__________ ADOP_ETRG_BROWSE                  ACTIVE    BROWSE Trigger Records
__________ ADOP_ETRG_DELETE                  ACTIVE    DELETE Trigger Record Ent
__________ ADOP_ETRG_EXECUTE                 ACTIVE    EXECUTE Trigger Record En
FACF03I: More records follow
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FWD  F9=RETRIEVE ...
```

FSE profile options are specified in the dialog record called ADOP_PRGM_EDIT. You will use the locate command to locate this record in the list. To do so, at the Dialog Directory List command line (===>), enter the following command; then, press ENTER:

```
L ADOP_PRGM_EDIT
```

```
MANTIS repositions the directory list so that ADOP_PRGM_EDIT displays on the first
line.EDPRLIST01      Dialog Directory List (PROFILE_DEFAULTS)   yyyy/mm/dd hh:mm:ss
 ===>
 User. . . PROFILE_DEFAULTS
 Action    Dialog ID                          Status   Description
 --------- ---------------------------------  -------- ------------------------
 _ optn __ ADOP_PRGM_EDIT                     ACTIVE   EDIT Program Entry
 __________ ADOP_PRGM_LIST                    ACTIVE   Program Directory List
 __________ ADOP_PRGM_MENU                    ACTIVE   Program Design Facility
 __________ ADOP_PRGM_PRINT                   ACTIVE   PRINT Program Entry
 __________ ADOP_PRGM_PROFILE                 ACTIVE   PROFILE Program Entry
 __________ ADOP_PRGM_PURGE                   ACTIVE   PURGE Program Entry
 __________ ADOP_PRGM_RENAME                  ACTIVE   RENAME Program Entry
 __________ ADOP_PRGM_SLIST                   ACTIVE   SLIST Program Entry
 __________ ADOP_PRGM_SQLBIND                 ACTIVE   SQLBIND Program Entry
 __________ ADOP_PRGM_SQLCHECK                ACTIVE   SQLCHECK Program Entry
 __________ ADOP_PRGM_SQLMAINT                ACTIVE   SQLMAINT Program Entry
 __________ ADOP_PRGM_SQLUNBIND               ACTIVE   SQLUNBIND Program Entry
 __________ ADOP_PRGM_UNBIND                  ACTIVE   UNBIND Program Entry
 __________ ADOP_SCRN_DELETE                  ACTIVE   DELETE Screen Entry
 __________ ADOP_SCRN_EDIT                    ACTIVE   EDIT Screen Entry
 __________ ADOP_SCRN_LIST                    ACTIVE   Screen Directory List
 __________ ADOX_EDPR_KEYS                    ACTIVE   Update Dialog Profile PF
 FACF03I:More records follow
 F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FWD  F9=RETRIEVE ...
```

Perform the following:

1. In the action field at the left of ADOP_PRGM_EDIT, enter OPTN (for “option”).
2. Press ENTER.

The Update Dialog Profile Options screen appears:

```
EDPROPTN01        Update Dialog Profile Options            YYYY/MM/DD HH:MM:SS
 ===>
 Base Information
   Library . . .     PROFILE_DEFAULTS
   Name. . . . .     ADOP_PRGM_EDIT
   Status. . . .     ACTIVE
   Description .     EDIT Program Entry

 Entry Options                   Function Options
   Immediate?  . . . . .   Y       Uppercase     ?  . .   Y
   Confirmation? . . . .   N       Nulls on?        . .   Y
   Addendum? . . . . . .   N       Indent on?       . .   Y
                                   Scroll? (P H C)  . .   P




 FACF10: Ok to update
 F1=HELP F2=EXHELP F3=EXIT F4=PROMPT F6=EXECUTE F9=RETRIEVE F12=CANCEL ...
```

The Scroll? field currently contains the letter P, indicating that the system-wide default FSE scroll setting is PAGE. To change the scroll setting to CURSOR, overtype the P with C; then, press PF6 to execute the action.

MANTIS returns to the Dialog Directory List, and displays Updated in the Status field, indicating that the record has been updated. The system-wide scroll setting for the Full-Screen Editor is now changed to CURSOR. Press the CANCEL key to return to the User Profile Design Facility menu.

Step 4: Copying the Extended Dialog Profile Record (EDPR)

Although you have set the system-wide FSE scroll setting to CURSOR, developers in the Accounting Department still want to use PAGE as the scroll setting. So that they don't have to use the PROFILE command to override the system-wide scroll setting each time they enter the Program Design Facility, they ask you to change this setting in their user profile.

To do so, you must copy the dialog record ADOP_PRGM_EDIT to the ACCOUNTS user, then update the scroll setting to change the default value for the user.

On the User Profile Design Facility menu, enter ACCOUNTS in the Name of user field; then, press PF7 to select Maintain user PF keys and options. The Dialog Directory List for the ACCOUNTS user displays:

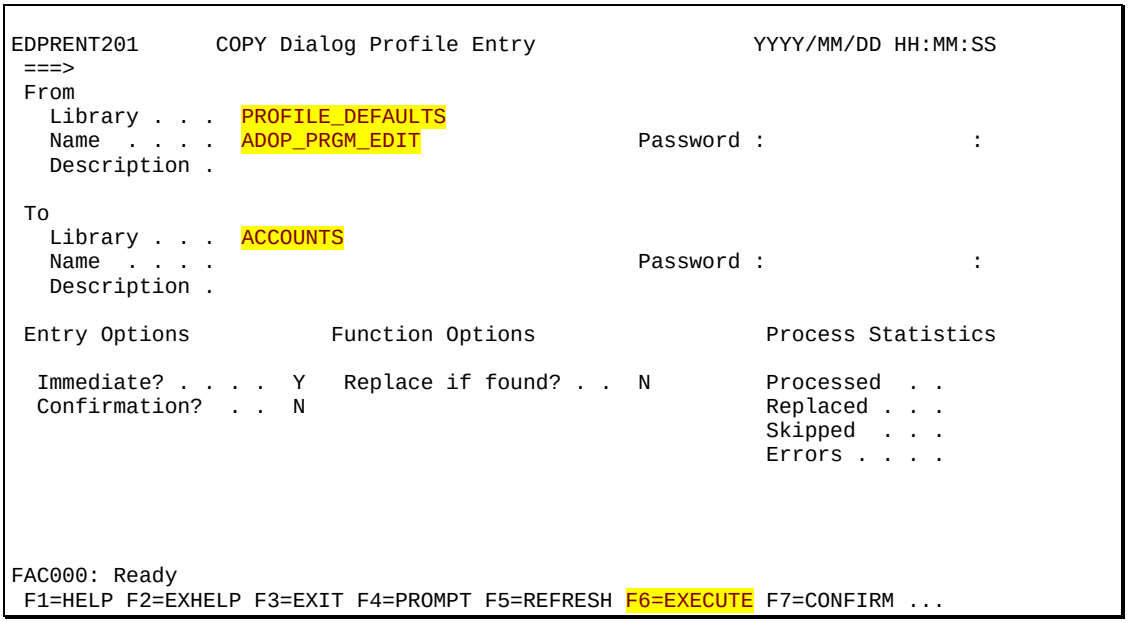
```
EDPRLIST01      Dialog Directory List (ACCOUNTS)          YYYY/MM/DD HH:MM:SS
===> copy
User  .  .  .  ACCOUNTS
Action    Dialog Id                         Status   Description
--------- --------------------------------  --------- ------------------------









FACF02: Not found
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FWD  F9=RETRIEVE ...
```

The list is blank because no extended dialog profile records (EDPRs) exist for this user. To modify PF keys or options, you will first have to copy an EDPR from the PROFILE_DEFAULTS user to the ACCOUNTS user.

On the command line, enter Copy; then, press ENTER. The COPY Dialog Profile Entry screen displays:

```
EDPRENT201      COPY Dialog Profile Entry                YYYY/MM/DD HH:MM:SS
 ===>
 From
   Library . . .  MASTER
   Name  . . . .                                 Password :               :
   Description .

 To
   Library . . .  MASTER
   Name  . . . .                                 Password :               :
   Description .

 Entry Options           Function Options                  Process Statistics

  Immediate? . . . .  Y   Replace if found? . .  N         Processed  . .
  Confirmation?  . .  N                                    Replaced . . .
                                                           Skipped  . . .
                                                           Errors . . . .




FAC000: Ready
 F1=HELP F2=EXHELP F3=EXIT F4=PROMPT F5=REFRESH F6=EXECUTE F7=CONFIRM ...
```

Enter the name of the user you are copying from (PROFILE_DEFAULTS) in the From Library field, the EDPR name (ADOP_PRGM_EDIT) in the From Name field, and the name of the user you are copying to (ACCOUNTS) in the To Library field. Your screen should look like this:



Press PF6 to execute the Copy action; then, press PF3 to return to the Dialog Directory List.

Step 5: Altering the extended dialog profile record for a specific user

Press PF5 to refresh the screen. The extended dialog profile record (EDPR) ADOP_PRGM_EDIT now appears in the list. To change the FSE scroll setting for the ACCOUNTS user, you must edit this EDPR.

Enter OPTN in the action field next to this EDPR, indicating that you want to change the options:

```
EDPRLIST01      Dialog Directory List (ACCOUNTS)          YYYY/MM/DD HH:MM:SS
===>
User  .  .  .  ACCOUNTS
Action    Dialog Id                          Status   Description
--------- ---------------------------------  -------- ------------------------
   OPTN ADOP_PRGM_EDIT                      ACTIVE    EDIT Program Entry









FACF02: Not found
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FWD  F9=RETRIEVE ...
```

Press ENTER. The Update Dialog Profile Options screen appears:

```
EDPROPTN01        Update Dialog Profile Options            YYYY/MM/DD HH:MM:SS
 ===>
 Base Information
   Library . . .     ACCOUNTS
   Name. . . . .     ADOP_PRGM_EDIT
   Status. . . .     ACTIVE
   Description .     EDIT Program Entry

 Entry Options                   Function Options
   Immediate?  . . . . .   Y       Uppercase     ?  . .   Y
   Confirmation? . . . .   N       Nulls on?        . .   Y
   Addendum? . . . . . .   N       Indent on?       . .   Y
                                   Scroll? (P H C)  . .   C









 FACF10: Ok to update
 F1=HELP F2=EXHELP F3=EXIT F4=PROMPT F6=EXECUTE F9=RETRIEVE F12=CANCEL ...
```

This screen displays Entry Options and Function Options for the EDIT Program Entry dialog, ADOP_PRGM_EDIT. Entry Options and Function Options let the user control how a specific action is executed. (Generally, the same Entry Options appear on most parameter entry screens, while Function Options vary depending upon the action.)

To alter the default values of Options, you simply type over the displayed value. For example, the Scroll? field currently contains the letter C, indicating that the system-wide default FSE scroll setting is CURSOR. To change the scroll setting to PAGE, overtype the C with P; then, press PF6 to execute the action.

MANTIS returns to the Dialog Directory List, and displays Updated in the Status field, indicating that the record has been updated. The FSE scroll setting for the ACCOUNTS user is now PAGE. Press the CANCEL key to return to the User Profile Design Facility menu.

For more information about Entry Options and Function Options, refer to *MANTIS Program Design and Editing, OS/390, VSE/ESA*, P39-5013.

Step 6: Displaying the user map

The Display User Map option shows a map of all the user codes that are currently in use on your MANTIS cluster. The *user code* is the single-byte code that identifies a user to MANTIS. MANTIS uses this map to assign user codes during User Profile Design.

Select the Display user map option by entering 10 in the action field and pressing ENTER. The user map in the following illustration is typical of what you see when you select this option:

```
USR004                MANTIS USER MAP CODE DISPLAY        YYYY/MM/DD HH:MM:SS

 DEC|   0     1      2      3      4      5      6      7      8      9    |
  0 | 0000 | 0001 | 0002 | 0003 | 0004 | 0005 | 0006 | 0007 | 0008 | 0009 |
 10 | 000A | 000B | 000C | 000D | 000E | 000F | 0010 | 0011 | 0012 | 0013 |
 20 | 0014 | 0015 | 0016 | 0017 | 0018 | 0019 | 001A | 001B | 001C | 001D |
 30 | 001E | 001F | 0020 | 0021 | 0022 | 0023 | 0024 | 0025 | 0026 | 0027 |
 40 | 0028 | 0029 | 002A | 002B | 002C | 002D | 002E | 002F | 0030 | 0031 |
 50 | 0032 | 0033 | 0034 | 0035 | 0036 | 0037 | 0038 | 0039 | 003A | 003B |
 60 | 003C | 003D | 003E | 003F | 0040 | 0041 | 0042 | 0043 | 0044 | 0045 |
 70 |      |      |      |      |      |      |      |      |      |      |
 80 |      |      |      |      |      |      |      |      |      |      |
 90 |      |      |      |      |      |      |      |      |      |      |

UTYFM2A:Press ENTER to continue; PF3 or CANCEL to exit
```

For the hex values displayed in the boxes on the user map, the corresponding user code is already assigned. The cell reference (that is, row plus column) shows the decimal equivalent. For example, the above user map shows that user code 26 (hex 1A) has been assigned. MANTIS will assign and reuse available user codes as a new user profile is defined.

User codes one through 15 are reserved for Cincom internal use, and the user code for the MASTER user is 16 (hex 10).

You may assign a user code on the user profile, if you wish. This may be useful for advanced techniques such as partitioned clusters (using the Split SETPRAY Exit), of if you have multiple clusters and you want to maintain the same user code between them.

Press ENTER to continue to next screen, or press PF3 or CANCEL to return to the User Profile Design Facility menu.

Step 7: Showing user names and codes

The Show user names and codes option shows the assigned user codes in your cluster. Select this option by pressing PF11. (This option provides more internal information than the directory of users that you viewed in "Step 2: Viewing the directory of users" on page 38.)

MANTIS displays a list of the assigned user codes on your cluster, including MANTIS protected users. The status is also provided, as shown in the following screen:

```
 USR007                      LIST OF USER PROFILES

USER NAME               USER CODE (HEX.)         STATUS
----------------        ---------  ----          ------
ADO_TEST                       18  0012          ACTIVE
CASE                            6  0006          ACTIVE  * PROTECTED USER *
CONTROL                         0  0017          ACTIVE  * PROTECTED USER *
EXAMPLES                       17  0011          ACTIVE
MASTER                         16  0010          ACTIVE
PROFILE_DEFAULTS               -1  ****          ACTIVE  * PROTECTED USER *
TEST_CODE                      19  0013          ACTIVE
TESTUSER                       20  0014          ACTIVE
TRANSFER                        1  0001          ACTIVE  * PROTECTED USER *
USER108                       108  006C          ACTIVE
USER119                       119  0077          ACTIVE
USER130                       130  0082          ACTIVE
USER141                       141  008D          ACTIVE
USER152                       152  0098          ACTIVE
USER163                       163  00A3          ACTIVE
USER174                       174  00AE          ACTIVE
USER185                       185  00B9          ACTIVE
USER196                       196  00C4          ACTIVE
```

When you are finished viewing the user codes, press the CANCEL key to exit to the User Profile Design Facility menu.

Exercises

In the exercises, you create the BURRYS user and any other users necessary for completing the exercises in the *MANTIS Application Development Tutorial, OS/390, VSE/ESA*, P39-5026.

Exercise 1: Creating the BURRYS user

Follow the steps in the preceding sections to create the BURRYS user. You will use this user to complete the exercises in the *MANTIS Application Development Tutorial, OS/390, VSE/ESA*, P39-5026.

To create the user profile, specify the password BURRYS and the following description:

```
BURRYS CUSTOMER ACCOUNTS SYSTEM
```

Your completed user profile should look like this:

```
USR003                        M  A  N  T  I  S

                         User Profile Design Facility
            Name and description of User  ...........  BURRYS
            BURRYS CUSTOMER ACCOUNT SYSTEM
            Password ..............................  BURRYS
            Facility Program ......................  MASTER:START_FACILITY
            Status  ...............................  ACTIVE
            Statements per Slot  ..................  5000
            Slots before interrupt  ...............  20
            Associated Printer  ...................
            Printer Exit name  ....................
            Conversational mode (CICS only)  ......  NO
            Middle East Countries Terminal  .......  NO
            Language Code  ........................  ENU
            Automatic open of TOTAL files  ........  NO
            Decimal Point  ........................  .
            Restrict design of TOTAL views  .......  NO
               "        "    " External file views  .  NO
            Log CEF operations  ...................  NO
            CEF statement/source default character  .  @
            Internal User code  .................Dec:       Hex:
FACU04A:Press ENTER to update, CANCEL key to cancel change and exit
```

Exercise 2: Creating additional users

Each user who will be completing the *MANTIS Application Development Tutorial* should have his or her own user. Or, you can provide a set of reusable student IDs, such as STUDENT1, STUDENT2, etc.

At this time, you should create any additional users that will be needed to complete the *MANTIS Application Development Tutorial, OS/390, VSE/ESA*, P39-5026.

3

Using the MANTIS utilities

In this chapter, you'll learn about the utilities that MANTIS provides to help you, the Master User, maintain your system. You'll also learn how to run several of the utilities to display terminal counts, add extended entity profile records (EEPRs) for all users, and display program statistics.

Learning outline

In this chapter you will learn how to:

- Select options from the MANTIS Utility Selection menu
- Display the number of terminals that are currently signed on to MANTIS
- Add EEPRs for all users on the MANTIS cluster
- Display program statistics for a user, or for a group of programs
- Automatically sequence a group of programs

Basic concepts: Understanding MANTIS utilities

You can use the MANTIS utilities to establish system security; set external file names; maintain system defaults, records, and files; and perform other Master User functions.

Most MANTIS Master User utilities are available from the MANTIS Utility Selection menu. The following table provides a quick reference for the utilities on this menu. Additional utilities that are not on the MANTIS Utility Selection menu are described after the table:

Option	Description
Authorize MANTIS/Options	Lets you enter site-specific information about CPUs, features, and MANTIS use.
Installation Check	Distributes new entity views to defined users, removes obsolete entities, and updates error messages. Run this utility (online, or in batch mode) after installing or reinstalling MANTIS.
Set External File Names	Modifies the names of external files, as defined to the TP Monitor or in the JCL.
Add EEPR Records - All Users	Creates extended entity profile records (EEPRs) for all programs on the cluster.
Set User Options - All Users	Sets Component Engineering Facility (CEF) default characters and log options for all users. (If you need to change only one user's options, use the User Profile Design Facility program (option 7 on the Master User's Facility Selection menu).
MANTIS Messages Facility	Lets you edit the message text for MANTIS messages.
Display Terminal Codes	Displays: ♦ Maximum number of terminals permitted to be simultaneously signed on to MANTIS ♦ Current number of terminals signed on to MANTIS
MANTIS Code Patch Utility	Lets you create, maintain, and apply patches (corrections) to MANTIS programs and other systems written in MANTIS code.

Option	Description
Purge All Extraneous EEPR	Deletes all extraneous EEPRs for each user on the MANTIS cluster.
Cleanup CREF File	Deletes all component cross-reference records for a user, or for all users on the MANTIS cluster.
Cleanup ELOG File	Deletes all log records for a user, or for all users prior to a specified date.
Cleanup ETRG File	Deletes all trigger records for a user, or for all users on the MANTIS cluster.
Reorganize ETRG File	Reorganizes the trigger file for a specified user by renumbering the records, beginning at one.
Clear Code Maps	Rebuilds a user file code map or the user code map.
Display File Codes	Displays the assigned file codes for the MASTER user.
Display File Map	Displays a map showing the assigned file codes for the MASTER user.
Display User Map	Displays a map showing the assigned user codes in your cluster.
Display User Codes	Displays the assigned user codes in your cluster.
Display Program Statistics	Displays statistics on MANTIS programs for a specified user.
HPO Check All Bound Programs	Checks the consistency of all bound programs in a user's library.
CP Interface	(CMS environment only) Specifies a CP (control program) command without leaving MANTIS.
Shared Pool Entity Statistics	Gathers and reports statistics on usage of programs and DL/I call profiles in the Shared Pool. You can also gather and report statistics on a limited number of nonshared programs and DL/I call profiles.
Display CSOL File	Displays the contents of the background task log file, which indicate the success or failure of MANTIS background tasks.
Customization Facility	Displays information about MANTIS installation and customization.

Additional MANTIS utilities (not on the Utility Selection menu) enable you to:

- Split the SETPRAY cluster into multiple physical files.
- Use the interfaces for switching UCTRAN in the current CICS terminal entry to allow MANTIS to control translation of uppercase/lowercase characters. For an example, see "Step 2: Turning mixed case support on" on page 113.
- Convert DL/I Segment Layouts to interfaces for use with the Enhanced DL/I Access Facility.
- Display the current MANTIS Facilities release level and the current MANTIS Component Engineering Facility (CEF) release level.
- Run some of the Program Design Facility functions in a batch environment, using the Batch Dialog Facility (BDF).

In this chapter, you will take a closer look at three utilities that are run from the Utility Selection Menu:

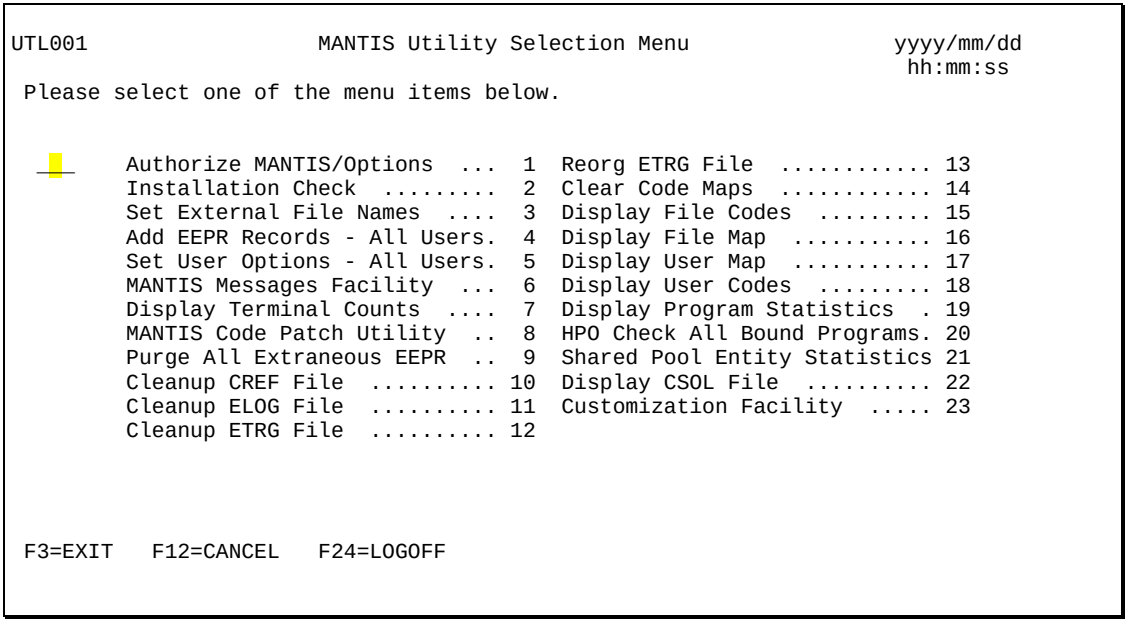
- Display Terminal Counts
- Add EEPR Records – All Users
- Display Program Statistics

For information on the MANTIS Code Patch Utility, see "Using the MANTIS Code Patch Utility" on page 149. For further information on using the other utilities, refer to *MANTIS Administration Guide, OS/390, VSE/ESA*, P39-5005.

Step-by-step: Using selected MANTIS utilities

You use the Run a Program by Name option on the Facility Selection menu to run some MANTIS utilities, and run others from the MANTIS Utility Selection menu.

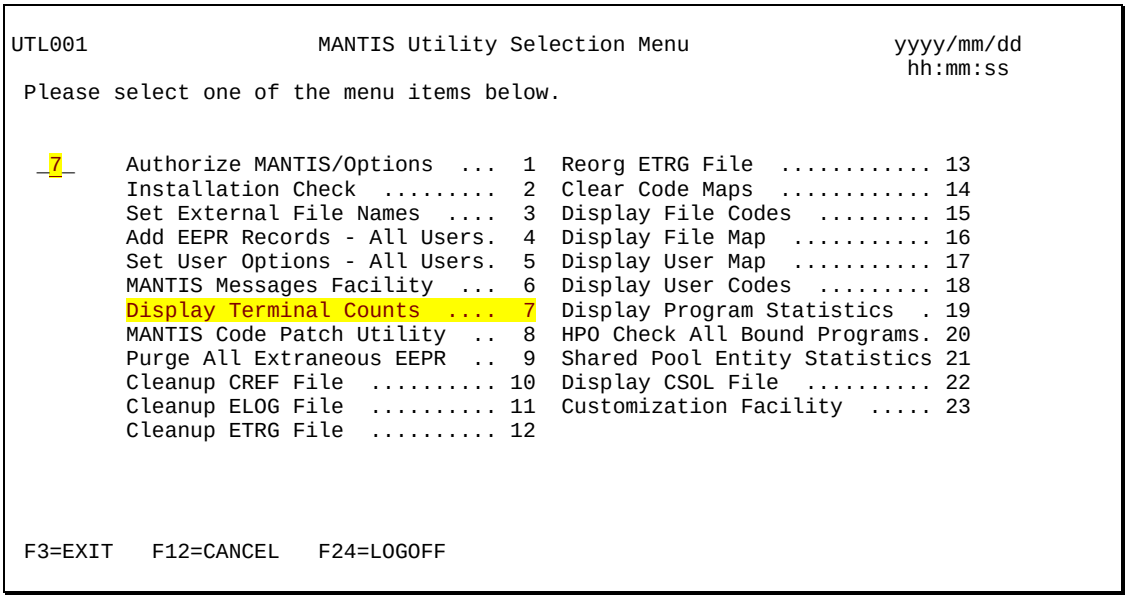
To access the MANTIS Utility Selection menu, sign on as the MASTER user and select the MANTIS Utilities (option 12) from the Facility Selection menu. The MANTIS Utility Selection menu appears:



To select a utility from this menu, enter the corresponding option number in the action field and press ENTER.

Step 1: Displaying terminal counts

The Display Terminal Counts utility shows you how many terminals are currently signed on to MANTIS. To run this utility, select Display Terminal Counts (option 7 or PF7).



MANTIS returns the following messages:

```
UTYMXTI:Maximum number of allowed terminals is 32
UTYSTCI:Number of terminals signed on to MANTIS is 5
```

The Number of terminals signed on to MANTIS field tells you how many terminals are currently signed on at your site. If this number reaches the maximum number of terminals allowed, no additional users can sign on to MANTIS until an existing user signs off. If both the Maximum number of allowed terminals and the Number of terminals signed on to MANTIS fields display zero (0), you do not have a terminal limit.

Press ENTER to return to the Utility Menu.

Step 2: Adding extended entity profile records for all users

After a new EEPR file is defined, the Add EEPR - All Users utility creates extended entity profile records (EEPRs) for all users.

The Program Design Facility builds the program name list from the EEPR. Therefore, if this utility is not run, it appears as if no programs exist for the user, even though they may. The EEPR is required if you plan to transfer a program, with or without history.

You need to run this utility only once for each MANTIS cluster, because the MANTIS design facilities automatically maintain EEPR information.

To run this utility, select the MANTIS Utilities option from the Facility Selection menu by typing 12 in the action field and pressing ENTER. The MANTIS Utility Selection menu displays:

```
UTL001                  MANTIS Utility Selection Menu                yyyy/mm/dd
                                                                      hh:mm:ss
 Please select one of the menu items below.


  _ 4    Authorize MANTIS/Options  ...  1  Reorg ETRG File  ............ 13
         Installation Check  .........  2  Clear Code Maps  ............ 14
         Set External File Names  ....  3  Display File Codes  ......... 15
         Add EEPR Records - All Users.  4  Display File Map  ........... 16
         Set User Options - All Users.  5  Display User Map  ........... 17
         MANTIS Messages Facility  ...  6  Display User Codes  ......... 18
         Display Terminal Counts  ....  7  Display Program Statistics  . 19
         MANTIS Code Patch Utility  ..  8  HPO Check All Bound Programs. 20
         Purge All Extraneous EEPR  ..  9  Shared Pool Entity Statistics 21
         Cleanup CREF File  .......... 10  Display CSOL File  .......... 22
         Cleanup ELOG File  .......... 11  Customization Facility  ..... 23
         Cleanup ETRG File  .......... 12


 F3=EXIT   F12=CANCEL   F24=LOGOFF
```

Select the Add EEPR Records – All Users option by typing 4 in the action field and pressing ENTER. MANTIS adds extended entity profile records for each user on the cluster, displaying a confirmation message as each user is processed. To process the next user, press ENTER after each message.

The following screen illustration shows sample output from running this utility:

```
CEF_REPORTS:    PROCESSED      0 PROGRAMS, INSERTED      0 PROFILES

EXAMPLES:       PROCESSED     46 PROGRAMS, INSERTED     46 PROFILES

LEDGER:         PROCESSED     10 PROGRAMS, INSERTED     10 PROFILES

MASTER:         PROCESSED     19 PROGRAMS, INSERTED     19 PROFILES
```

To terminate the program before it has processed all users, enter KILL in the bottom, right corner of the screen; then, press ENTER.

When MANTIS is finished creating extended entity profile records for all users, the following message displays:

```
UTYPAUI: Populate all users complete.
```

Press ENTER to return to the MANTIS Utility Selection menu.

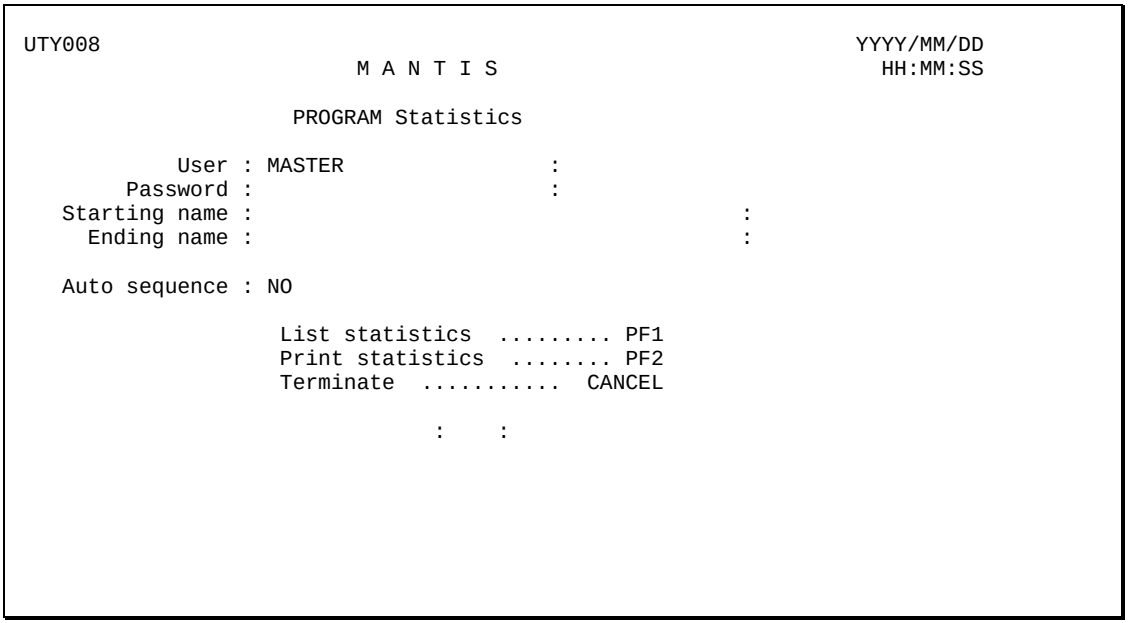
Step 3: Displaying program statistics

The Display Program Statistics utility displays statistics on a program or programs for a specified user. You can use this utility to find out how large programs are, or to automatically sequence a group of programs.

To run this utility, select the Display Program Statistics option:

1. In the action field, enter 19.
2. Press ENTER.

The following screen displays:



We will use this utility to sequence a group of programs in the EXAMPLES user.

Perform the following:

1. In the User field, overtype the name MASTER with EXAMPLES.
2. In the Password field, enter CASINO.
3. Press PF1 (in order to select option 1, List statistics).

```
UTY008                                                          YYYY/MM/DD
                          M A N T I S                            HH:MM:SS

                       PROGRAM Statistics

            User : examples              :
        Password : casino                :
   Starting name :                                  :
     Ending name :                                  :

   Auto sequence : NO

                     List statistics  ......... PF1
                     Print statistics  ........ PF2
                     Terminate  ...........  CANCEL

                                :    :
```

The following screen displays:

```
YYYY/MM/DD - HH:MM:SS          MANTIS Program Statistics           Page - 1
 User - EXAMPLES
                                                    Sequencing
 ----------Program---------------- Lines Size(B)  Maxim Sugg Messages---------
 AMOUNT_IN_WORD                     108   3127     231  100
 APPLICATIONS                        18    470    1388  100
 BATCH_FACILITY                      37   1127     675  100
 BUZZ_PHRASES                        38   1262     657  100
 COMMON_DIVISOR                      23    590    1086  100
 COSTS                              117   3626     213  100
 CP                                  20    503    1250  100
 CUST_MENU                           14    415    1785  100
 FACILITY                             9    406    2777  100
 GAMES                               24    591    1041  100
 INDUSTRIAL                          18    474    1388  100
 JACKSON_RECORDS                     30    714     833  100
 MAGIC_EXAMPLE_1                     21   1249    1190  100
 MAGIC_EXAMPLE_2                     50   1566     500  100
 MASTER_MIND                        137   2375     182  100
 PAYMENT                             26   1085     961  100
 PERCEPTION                          28    778     892  100
 PI                                  19    804    1315  100
```

The MANTIS Program Statistics screen displays the program name, the number of lines in the program, the size of the program (in bytes), the maximum value (gap between line numbers) you can use to SEQUENCE the program, the suggested value for SEQUENCING, and any messages concerning the program. The message SEQUENCED displays if you specified AUTO SEQUENCE: YES on the PROGRAM Statistics menu.

Press ENTER to page through the program statistics list. When you are finished viewing the list, MANTIS returns you to the PROGRAM Statistics menu.

You can use this utility to automatically sequence a group of programs to the suggested increment. On the PROGRAM Statistics menu, enter CASINO in the Password field. (The password will not display when you enter it.) Enter PRICE* in the Starting name field, and change Auto sequence to YES. Your screen should look like this:

```
                                                          YYYY/MM/DD
                        M A N T I S                         HH:MM:SS

                     PROGRAM Statistics

           User : EXAMPLES              :
       Password : casino                :
  Starting name : PRICE*                          :
    Ending name :                                 :

  Auto sequence : YES

                    List statistics  ......... PF1
                    Print statistics  ........ PF2
                    Terminate  ...........  CANCEL

                               :    :
```

The asterisk is a wild card character, so by entering PRICE* in the Starting name field, you are telling MANTIS to sequence all the programs beginning with PRICE.

Press PF1 to list the program statistics. The following screen displays:

```
YYYY/MM/DD - HH:MM:SS          MANTIS Program Statistics          Page - 1
 User - EXAMPLES
                                                    Sequencing
 ----------Program---------------- Lines Size(B)  Maxim Sugg Messages---------
 PRICE_BASE                          12    364    2083  100 ***SEQUENCED***
 PRICE_PORT                          12    366    2083  100 ***SEQUENCED***
 PRICE_RATE                          89   1919     280  100 ***SEQUENCED***
 PRICE_TOWN                         157   3448     159  100 ***SEQUENCED***
 PRICES                              17    440    1470  100 ***SEQUENCED***
```

Since you entered PRICE* in the Starting name field, MANTIS displays only those programs that begin with PRICE. MANTIS displays a confirmation message in the Messages field, indicating that it has automatically sequenced these programs.

Press ENTER to display page two of the statistics. The following screen displays:

```
YYYY/MM/DD - HH:MM:SS          MANTIS Program Statistics          Page - 2
 User - EXAMPLES


 Total No of Programs : 5

                        Accumulated  Average  Minimum  Maximum
 Program Size (Bytes) :       6537     1307      364     3448
 No of Program Lines  :        287       57       12      157

 Program Distribution :

  Seq Gaps  Prog Lines  Count  Histogram----------------------------------------------
     -  10  2728-     :     0:
   11-  30   968-2727 :     0:
   31- 100   298- 967 :     0:
  101- 250   120- 297 :     1: ****************
  251- 500    60- 119 :     1: ****************
  501-1000    30-  59 :     0:
 1001-          -  29 :     3 ******************************************************
```

This screen summarizes the program statistics, indicating that the five programs have a combined size of 6537 bytes, and a total of 287 lines. The average size of these programs is 1307 bytes and 57 lines. The smallest program is 364 bytes and has 12 lines, while the largest program in the group is 3448 bytes and has 157 lines.

The Seq and Gaps columns show the number of programs within a certain range of program lines, and the gaps possible for sequencing program lines. The Prog Lines column shows the range of program lines.

When you are finished viewing the program statistics, press the CANCEL key to return to the MANTIS Utility Selection menu. Then, press the CANCEL key again to return to the Facility Selection menu.

Exercises

There are no exercises for this chapter.

4

Copying MANTIS entities

This chapter introduces you to the Universal Export Facility and the Transfer Facility, then guides you step-by-step through the process of transferring the Burrys customer accounting system entities from the BURRYS user to the ACCOUNTS user.

Learning outline

In this chapter you will learn how to:

- Access the Transfer Facility menu
- Create a transfer bin
- Copy MANTIS entities (screens, programs, etc.) from a user library to a transfer bin
- Transfer file data along with a file profile
- Copy MANTIS entities from a transfer bin to a user library

Basic concepts: Understanding the Universal Export and Transfer Facilities

MANTIS provides two facilities for moving MANTIS entities:

- **Universal Export Facility.** See "Understanding the Universal Export Facility" below.
- **Transfer Facility.** See "Understanding the Transfer Facility" on page 69.

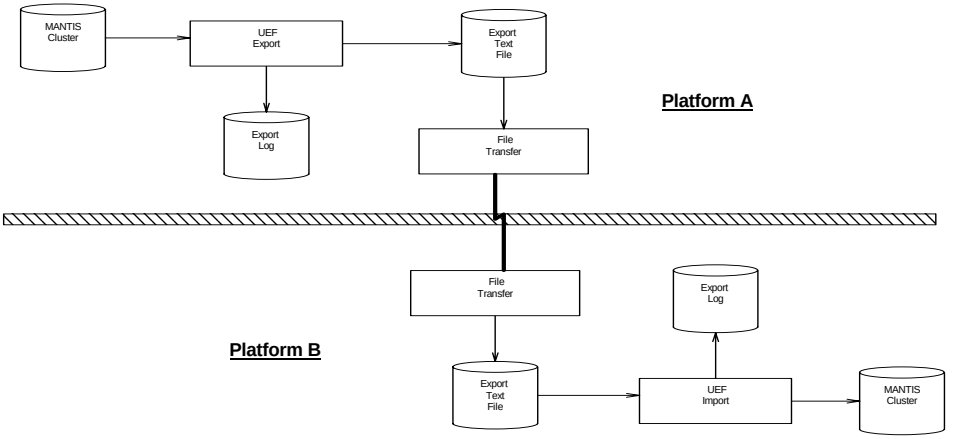
Understanding the Universal Export Facility

The Universal Export Facility (UEF) allows you to export and import one or more entities (such as, screens, files, programs, and views) from one MANTIS cluster to another. The MANTIS clusters can be on the same or different platforms.

EXPORT transfers entities from the MANTIS cluster to an external file (normally EXPCLU). IMPORT transfers entities from the external file to the MANTIS cluster. The entities are stored on the external file in sequential text format, so they can be accessed and read by many different programs. Therefore, the Universal Export Facility is frequently used to move entities from one MANTIS platform to another.

In the following figure:

- The user on platform A exports entities to the empty export text file.
- Transfer of the export text file from platform A to platform B using your installation's preferred method.
- The user on platform B imports the export text file into the MANTIS cluster.



The composed indicator (@) is lost when you export/import a composed program.

To import and export entities, select the Universal Export Facility from the Facility Selection menu by entering 22 in the action field and pressing ENTER.

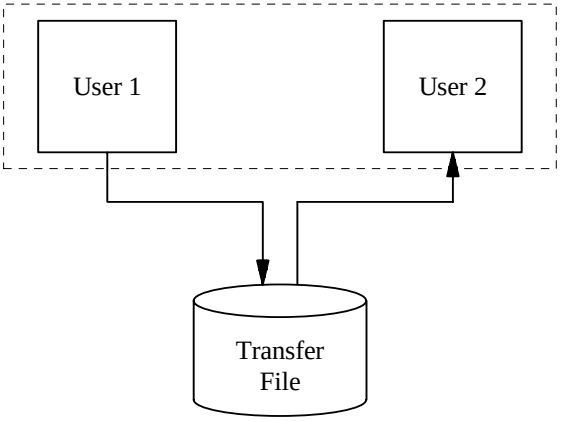
Understanding the Transfer Facility

The Transfer Facility stores MANTIS entities in the same encoded format that is used on the MANTIS cluster. Since the records are in encoded format, other programs cannot read them. However, the Transfer Facility provides a fast and easy way to move entities from one MANTIS user to another, whether they are using the same or different online systems. You can also use the Transfer Facility with Batch MANTIS.

The transfer file is divided into independent areas, called bins, that may belong to a single user or be shared by several users. You can use the Transfer Facility to move the following MANTIS entities:

- Screens
- MANTIS File Profiles
- Programs
- Prompters
- Interfaces
- MANTIS User File Data
- TOTAL File Views
- External File Views
- DL/I Call Profiles

The following figure illustrates how to transfer an entity from one user to another on a single MANTIS system:

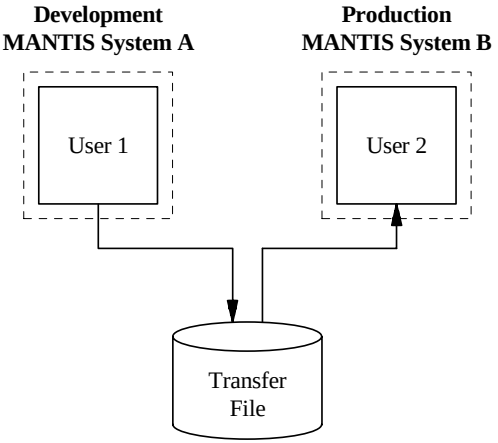


On a single MANTIS system, the Master User can perform the following:

1. Copy entities from any user library to a specific bin in the transfer file.
2. Copy the entities from the bin to the target library.
3. Delete the entities from the bin after copying them.

This function permits controlled sharing of MANTIS entities not otherwise available (for example, file descriptions and prompters).

The following figure illustrates transferring entities from one system to another:



Two steps are necessary to transfer entities from one system to another:

1. Copy the entities from the source library to a bin in the transfer file, and then close the transfer file to System A.
2. Next, open the transfer file to System B and copy the entities from the bin to the target library.

To ensure data integrity, the transfer file should remain closed to one system while the second system is working with it. CICS users should use the CICS CEMT transaction to open and close the transfer file.

Use the Lock/Unlock Transfer facility option to lock the Transfer Facility before closing the transfer file for a system. Unlock the Transfer Facility only after you have reopened the transfer file.

Step-by-step: Transferring the customer accounts system

Now that you understand some basic concepts for copying MANTIS entities, you're ready to transfer the Burrys customer accounts system entities from the BURRYS user to the ACCOUNTS user.

To begin, sign on as the MASTER user. In the Facility Selection menu:

1. In the action field, enter 11 (to select the Transfer Facility).
2. Press ENTER.

The Transfer Facility menu displays:

```
TRA001                        Transfer Facility                    YYYY/MM/DD
                                                                     HH:MM:SS
          Transfer file name : CSOT     :
                         Bin :                  :
                    Password :                  :

             Create a new bin  ............................   1
             Copy from library to bin  ....................   2
             Copy from bin to library  ....................   3
             Delete from bin  .............................   4
             List contents of bin  ........................   5
             Change password for bin  .....................   6
             Directory of bins  ...........................   7
             Turn print on/off  ...........................   8
             Help  ........................................   9
             Lock/Unlock Transfer facility  ............... 10
             Delete entire bin  ........................... 12
             Delete all bins in Transfer file  ............ 13
             Exit facility  ..........................  CANCEL

                                :    :
```

The Transfer file name field displays the name of the transfer file (CSOT) as you defined it in the installation process. You can use this field to specify any valid transfer file name.

You start most Transfer Facility menu options by entering a bin name and password in the spaces provided at the top of this menu (except for the Directory of bins and the Help options). The bin name you enter on this menu displays in the Bin field in the upper-left corner of all subsequent Transfer Facility screens until you change it on the Transfer Facility menu, or exit from the facility.

To select an option from this menu, press the corresponding PF key, or enter the option number in the action field and press ENTER.

Step 1: Creating a bin

Before you can transfer the Burrys customer accounting system entities, you must create a transfer bin. Enter BURRYS in the bin name field as shown:

```
TRA001                        Transfer Facility                    YYYY/MM/DD
                                                                     HH:MM:SS
          Transfer file name : CSOT     :
                        Bin : BURRYS          :
                   Password :                 :

             Create a new bin  ............................   1
             Copy from library to bin  ....................   2
             Copy from bin to library  ....................   3
             Delete from bin  .............................   4
             List contents of bin  ........................   5
             Change password for bin  .....................   6
             Directory of bins  ...........................   7
             Turn print on/off  ...........................   8
             Help  ........................................   9
             Lock/Unlock Transfer facility  ...............  10
             Delete entire bin  ...........................  12
             Delete all bins in Transfer file  ............  13
             Exit facility  ............................ CANCEL

                                 :  1 :
```

Since the password is optional, we will not specify a password for this bin. Press PF1 to create the bin (or enter 1 in the action field and press ENTER).

MANTIS displays a confirmation message in the lower left corner of the screen, indicating that the bin was created:

```
TRA001                        Transfer Facility                      YYYY/MM/DD
                                                                       HH:MM:SS
          Transfer file name : CSOT     :
                         Bin : BURRYS           :
                    Password :                  :

             Create a new bin  ............................   1
             Copy from library to bin  ....................   2
             Copy from bin to library  ....................   3
             Delete from bin  .............................   4
             List contents of bin  ........................   5
             Change password for bin  .....................   6
             Directory of bins  ...........................   7
             Turn print on/off  ...........................   8
             Help  ........................................   9
             Lock/Unlock Transfer facility  ...............  10
             Delete entire bin  ...........................  12
             Delete all bins in Transfer file  ............  13
             Exit facility  ...........................  CANCEL

TRA053I:Bin created               :    :
```

Step 2: Copying from library to bin

Your next step is to copy the Burrys customer accounting system entities from the BURRYS user library to the BURRYS transfer bin. Press PF2 to select the Copy from library to bin option. The Copy from Library to Bin screen displays:

```
TRA002                    Copy From Library To Bin                   YYYY/MM/DD
   Bin: BURRYS                                                         HH:MM:SS

   Programs ..................... 1      DL/I Call Profiles .............   9
   Screens ...................... 2      DL/1 segment layouts ...........  10
   File Profiles ................ 3      DL/I unequal call profs ........  11
   Prompters .................... 4      Turn print ON/OFF ..............  12
   Interfaces ................... 5      Help ...........................  13
   Scenarios .................... 6      User File Data (Kanji Keys).....  14 (15)
   TOTAL File Views ............. 7      All  ...........................  24
   External File Views ......... 8      Terminate this facility .... CANCEL

                  User : MASTER                        :
          Starting Name :                              :
            Ending Name :                              :
       (A)dd/(R)eplace : A :            With data : N :
              New Name :                               :

                                  :     :
```

The Copy from Library to Bin screen lists the types of entities you can copy. From this screen, you can specify the name of the user from which you want to copy entities, then copy a single entity by entering the entity name in the Starting Name field. To copy a range of entities, enter a Starting Name and an Ending Name, or a generic name comprised of letters and wildcard characters. You can also use the All option to copy all the entities in the user library.

MANTIS entities (other than programs and screens) have 1–16 character names. The following table summarizes the permitted lengths when naming MANTIS entities in the Transfer Facility:

Entity type	Length of name
Programs	1–30
Screens	1–30
Files	1–16
Prompters	1–16
Interfaces	1–16
TOTAL file views	1–16
External file views	1–16
Scenarios	1–16

The (A)dd/(R)eplace field on the Copy from Library to Bin screen indicates whether the entities being copied are to be added as new entities, or are to replace existing entities in the bin.

You use the With data option to indicate that you want to transfer file data along with file profiles. The New Name field lets you assign a new name to the entity when you copy it into the bin.

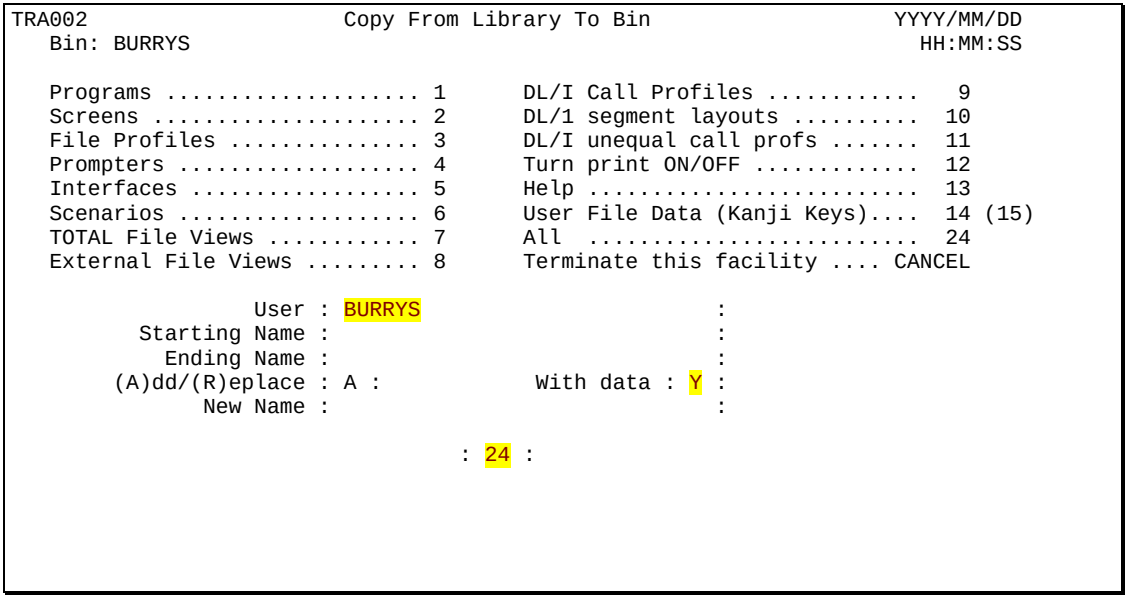
The Copy from Library to Bin screen also provides options for creating a printing trail and accessing help. You can indicate whether you want to print a trail of all updates made during a copy session by setting the Turn print ON/OFF option. The default setting for the print trail is off.

To turn the print trail on or off from any screen in the Transfer Facility, enter 12 in the action field and press ENTER, or press PF12. When the print trail is on, the word PRINT appears in the upper-left corner of the current screen. MANTIS will route the printing trail to your designated printer (or Printer Exit).

You can access online help from the Copy from Library to Bin screen by entering 13 in the action field and pressing ENTER, or by pressing PF13. When viewing help, press ENTER to move from page to page, or press the CANCEL key to exit.

You can also select a single entity to be copied from an entity list. To display an entity list, leave the Starting Name and Ending Name fields blank, and press the PF key corresponding to the type of entity you want to copy.

Since you want to copy the entities from the BURRYS user to the bin, enter BURRYS in the User field. Change With data to Y, so that the existing file records will be transferred along with the file profiles. Then, to copy all the entities to the BURRYS bin, enter 24 in the action field:



Press ENTER. MANTIS copies all the entities from the BURRYS user to the BURRYS bin on the transfer file, and displays a confirmation message indicating that the copy was successful.

Press the CANCEL key to return to the Transfer Facility menu.

Step 3: Copying from bin to library

Now, you need to copy the entities from the transfer bin to the ACCOUNTS user. (The BURRYS user is being used as our development user, and the ACCOUNTS user is our end-user ID).

Select the Copy from bin to library option by pressing PF3, or by entering 3 in the action field and pressing ENTER. The Copy from Bin to Library screen displays:

```
TRA005                  Copy From Bin to Library                  YYYY/MM/DD
   Bin: BURRYS                                                      HH:MM:SS

   Programs ..................... 1      DL/I Call Profiles .............   9
   Screens ...................... 2      DL/1 segment layouts ..........  10
   File Profiles ................ 3      DL/I unequal call profs .......  11
   Prompters .................... 4      Turn print ON/OFF .............  12
   Interfaces ................... 5      Help ..........................  13
   Scenarios .................... 6      User File Data (Kanji Keys)....  14 (15)
   TOTAL File Views ............. 7      All  ..........................  24
   External File Views ......... 8      Terminate this facility .... CANCEL

          Starting Name :                                  :
            Ending Name :                                  :
       (A)dd/(R)eplace : A : With data : N : With history: Y :
                  User : MASTER                            :
              New Name :                                   :
          New Password :                  :
                                    :     :
```

This screen is similar to the Copy From Library To Bin screen, with two additional fields: With history and New Password.

The With history field specifies whether you want to move a program's profile history (that is, the EEPR) along with the program you are transferring. The EEPR is required if you transfer a program with, or without, history. It contains: program information (description, password, status, date and time of last change, terminal ID, user ID, and version number), CEF information (Check, Compose and Decompose), and Bind information (Check, Bind, Unbind) on SQL and HPO-bound programs. (Information about CREF data is not included on the EEPR because CREF data applies only to the source cluster and is never transferred.) Specify Y to transfer the program with EEPR data, or N to transfer the program without EEPR data.

You can use the New Password field to change the password for the entities that you transfer.

Again, change With data to Y so that the file records will be copied along with the file profiles. Change the user name to ACCOUNTS, then enter 24 in the action field:

```
TRA005                  Copy From Bin to Library                  YYYY/MM/DD
   Bin: BURRYS                                                      HH:MM:SS

   Programs ..................... 1      DL/I Call Profiles .............   9
   Screens ...................... 2      DL/1 segment layouts ..........  10
   File Profiles ................ 3      DL/I unequal call profs .......  11
   Prompters .................... 4      Turn print ON/OFF .............  12
   Interfaces ................... 5      Help ..........................  13
   Scenarios .................... 6      User File Data (Kanji Keys)....  14 (15)
   TOTAL File Views ............. 7      All  ..........................  24
   External File Views ......... 8      Terminate this facility .... CANCEL

          Starting Name :                                :
            Ending Name :                                :
       (A)dd/(R)eplace : A : With data : Y: With history: Y :
                  User : ACCOUNTS                  :
              New Name :                                 :
           New Password :                  :
                                  : 24 :
```

Press ENTER. MANTIS copies all the entities from the BURRYS bin to the ACCOUNTS user, and displays a confirmation message indicating that the copy was successful.

Press the CANCEL key to return to the Transfer Facility menu; then, press the CANCEL key again to return to the Facility Selection menu.

Exercise

Select the Sign On as Another User option by entering 13 in the action field and pressing ENTER. Sign on as the ACCOUNTS user (password BURRYS) and select the Design a Program option by entering 3 in the action field and pressing ENTER. The Program Design Facility menu displays:

```
PRGMMENU01     Program Design Facility (ACCOUNTS)            YYYY/MM/DD HH:MM:SS
===> 1

Please select one of the menu items below.

    Program     Component Engineering  Bind Options    Utilities

___ 1. List      7. CEF Check          12. HPO Check   18. Audit Trail
    2. Edit      8.  "  Compose        13.  "  Bind    19. Browse Audit Trail
    3. Profile   9.  "  Decompose      14.  "  Unbind  20.    "   Prgm Profile
    4. Purge    10. CREF Programs      15. SQL Check   21. Trigger List
    5. Copy     11. Bill of Materials  16.  "  Bind    22. SQL Maint
    6. Rename                          17.  "  Unbind

FAC000I:  READY
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F9=RETRIEVE F12=CANCEL ...
```

Enter 1 on the command line and press ENTER to display the program list:

```
 PRGMLIST01       Program Directory List (ACCOUNTS)          YYYY/MM/DD HH:MM:SS
===>
Action    Name                                Date       Time     Ver FMT Status
--------- ----------------------------------  ---------- -------- --- --- ------
__________ ADD_CUST                           YYYY/MM/DD HH:MM:SS   2    ACTIVE
__________ BURRYS_PROGRAM_LABEL               YYYY/MM/DD HH:MM:SS   2    ACTIVE
__________ CODE_BROWSE                        YYYY/MM/DD HH:MM:SS   3    ACTIVE
__________ CUST_BROWSE                        YYYY/MM/DD HH:MM:SS   3    ACTIVE
__________ CUST_ENTRY                         YYYY/MM/DD HH:MM:SS  12    ACTIVE
__________ CUST_ENTRY_SOURCE                  YYYY/MM/DD HH:MM:SS   2    ACTIVE
__________ CUST_MAINT                         YYYY/MM/DD HH:MM:SS   3    ACTIVE
__________ CUST_MENU                          YYYY/MM/DD HH:MM:SS   4    ACTIVE
__________ STATE_CODES                        YYYY/MM/DD HH:MM:SS   2    ACTIVE
__________ VALIDATE_CUST_INFO                 YYYY/MM/DD HH:MM:SS   2    ACTIVE









 FACF09I:End of file
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FWD  F9=RETRIEVE ...
```

Notice that the programs that were created on the BURRYS user have been copied to the ACCOUNTS user.

You can now select and edit these programs on the ACCOUNTS user without affecting the copy that remains on the BURRYS user. Therefore, you can keep your test system on one user and your production system on another user, so that developers can work without impacting your production system. (For more information on editing MANTIS programs, refer to *MANTIS Application Development Tutorial, OS/390, VSE/ESA*, P39-5026.)

Press the CANCEL key twice to return to the Facility Selection menu, then select the Sign On as Another User option by entering 11 in the action field and pressing ENTER. Sign on as the MASTER user to prepare for the lessons in the next chapter.

5

Customizing MANTIS sign-on, facilities, and termination

This chapter shows you how to customize sign-on procedures, MANTIS facilities, and sign-off procedures. After you learn the basics of customizing these MANTIS procedures, you will modify the facility menu for the ACCOUNTS user, our sample production user.

Learning outline

In this chapter you will learn how to:

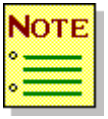
- Customize the MANTIS sign-on screen
- Customize the MANTIS sign-on procedure
- Specify the facilities that are available to a user
- Update a user profile to access the new facility program
- Customize the MANTIS sign-off procedure

Basic concepts: Understanding MANTIS sign-on and termination procedures

As Master User, you can customize the sign-on and termination procedures for MANTIS by modifying the screen MASTER:SIGN_ON and the programs MASTER:SIGN_ON and MASTER:TERMINATE. You can also decide which MANTIS facilities (such as screen design, file design, or customized routines) are available to a MANTIS user. (In other systems, the sign-on might be called by different names such as log in, logon, or sign-in.)

Customizing the sign-on screen

You use the MANTIS Screen Design Facility to fetch, update, and replace the MASTER:SIGN_ON screen. (For information on using the MANTIS Screen Design Facility, refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001.)



Be sure to back up your MANTIS Setpray cluster before you alter this screen. Then, if you accidentally change this screen so that you can no longer sign on to MANTIS, you can restore the backup cluster.

The following table lists the fields on the sign-on screen:

Field name	Format	Comments
NAME	16 characters	Text; don't alter
CLEARANCE	16 characters	Text; don't alter
NOTE	76 characters	Text; protected; don't alter
SIGN_ON_DATE	10 characters	Designates current date; optional
SIGN_ON_TIME	8 characters	Designates current time; optional
SIGN_ON_RELEASE	79 characters	Current MANTIS release level; optional

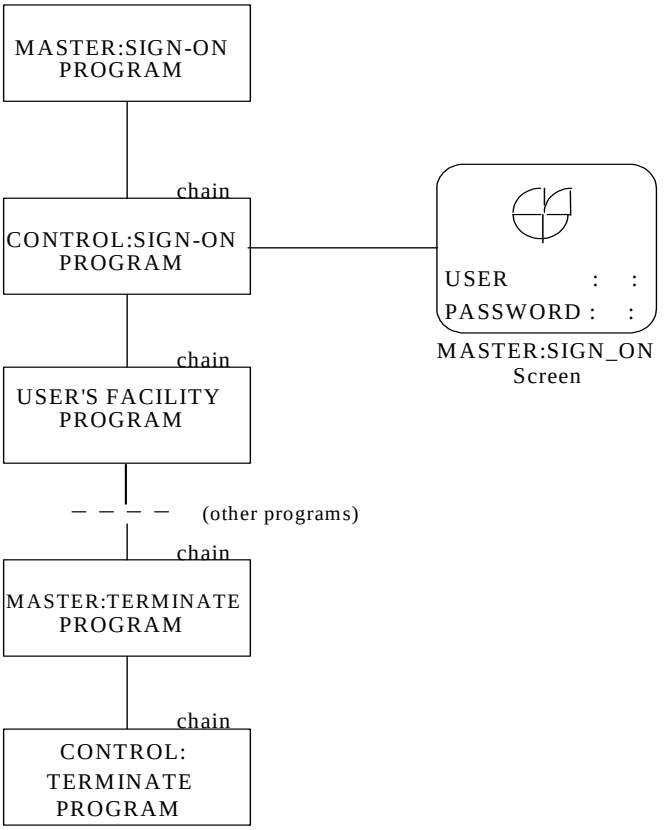
Do not change the NAME, CLEARANCE, or NOTE fields. These fields must keep their original names, sizes, and attributes. You can move the fields to different locations on the screen, but do not change these fields. If you do so, users cannot sign on.

When modifying the new sign-on screen, leave one terminal signed-on to MASTER while you test your changes thoroughly at another terminal. The terminal signed on to MASTER allows you to back out changes if an error occurs.

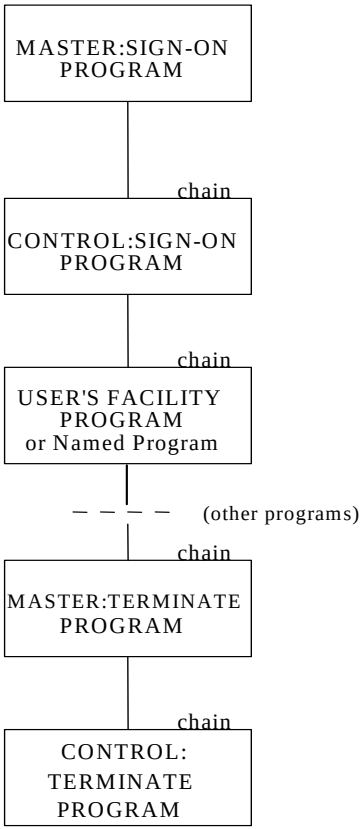
If you cannot use two terminals, back up the MANTIS Setpray cluster before you make changes. Then, if you accidentally make changes that prevent you from signing on to MANTIS, you can restore the backup cluster.

Customizing the MANTIS sign-on procedure

After MANTIS initialization, the first program that is executed is MASTER:SIGN_ON. The following figure illustrates the standard MANTIS sign-on flow:



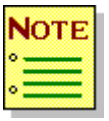
The following figure illustrates the MANTIS sign-on flow using alternate sign-on. When the NAME and PASSWORD parameters are passed to CONTROL:SIGN_ON, the user's facility program is invoked. When NAME, PASSWORD, and a program name are passed to CONTROL:SIGN_ON, the named program is invoked:



The program MASTER:SIGN_ON allows you to:

- Set system-wide terminal or user-related defaults, such as printer ID and attributes, and terminal attributes
- Provide additional security checks, or sign on to security facilities and databases
- Call non-MANTIS programs for security checking or authorization
- Sign on a Batch or online MANTIS user automatically
- Sign on to a MANTIS user based upon terminal, TP monitor, or passed parameters
- Examine or modify parameters of background tasks

You can customize the MASTER:SIGN_ON program to bypass or modify the standard sign-on screen procedure.



When modifying the new sign-on screen and program, leave one terminal signed-on to MASTER while you test your changes thoroughly at another terminal. The terminal signed-on to MASTER allows you to make corrections if an error occurs.

If you cannot use two terminals, back up the MANTIS Setpray cluster before you make changes. Then, if you accidentally make changes such that you can no longer sign on to MANTIS, you can restore the backup cluster.

The following code shows the MASTER:SIGN_ON program (your code will be different if you are using AD/Advantage):

```
00010 ENTRY SIGN_ON(NAME,CLEARANCE,PARAMETER)
00020 .TEXT NAME(16),CLEARANCE(16),PARAMETER(100)
00030 .|To suppress the standard MANTIS sign on procedure, pass a
00040 .|valid user name and password to the MANTIS program
00050 .|CONTROL:SIGN_ON.  You can force CONTROL:SIGN_ON to chain
00060 .|to a program of your choice, and optionally pass a parameter
00070 .|to the chained program by initializing the text
00080 .| variable PARAMETER, as shown here.
00090 .|-------------------------------------------------------**
00100 .|PARAMETER:
00110 .|
00120 .|AAAAAAAAA;BBBBBBBBB
00130 .|
00140 .|where:
00150 .|
00160 .|AAAAAAAAA   - is the program to be chained to instead
00170 .|              of the user facility program
00180 .|
00190 .|;           - is a mandatory separator if 'BBBBBBBB' exists
00200 .|
00210 .|BBBBBBBB   - is the parameter data to be passed to the
00220 .|              'AAAAAAA' program if 'AAAAAAA' is supplied,
00230 .|              or to the user facility program if 'AAAAAAAA'
00240 .|              is not supplied.
00250 .|
00260 .|Both the 'AAAAAAAA' and 'BBBBBBB' parameters are optional.
00270 .|-------------------------------------------------------**
00280 .|Additionally, you can specify certain terminal options, CALL
00290 .|an interface program to verify sign-on information, etc., in
00300 .|this program.  If you use background tasks or the MANTIS
00310 .|shared pool (which loads the pool in the background), you
00320 .|must bypass any code that modifies the terminal or calls an
00330 .|interface program that does.  See the examples that follow.
00340 .|IF TERMINAL="BACK$MAN"
00350 .|CHAIN"CONTROL:SIGN_ON",NAME,CLEARANCE,PARAMETER
00360 .|END
```

```
00370 .|IF TERMINAL="DUMMY"
00380 .| ATTRIBUTE(TERMINAL)="(60,132)"
00390 .| CHAIN"CONTROL:SIGN_ON",NAME,CLEARANCE,PARAMETER
00400 .|END
00410 .|INTERFACE OBTAIN_USER("XXXXX","XXXXXX")
00420 .|CALL OBTAIN_USER
00430 .|ATTRIBUTE(TERMINAL)="LOW"
00440  |-------------------------------------------------------------
00450 .CHAIN"CONTROL:SIGN_ON",NAME,CLEARANCE,PARAMETER
00460 EXIT
```

As the Master User, you can modify the program MASTER:SIGN_ON to bypass the MANTIS sign-on screen completely. For example, you could have a single sign-on to CICS or an authorization system, or the MASTER:SIGN_ON screen could CONVERSE its own sign-on screen and do some pr-validation of the user ID and password.

If you do bypass the sign-on screen, the user's facility program, or named program, runs first and displays the first screen. (The user's facility program is the one specified in the user's profile, unless an initial facility program is supplied in the "PARAMETER" variable.)

To bypass the user sign-on procedure, CHAIN to CONTROL:SIGN_ON (line 450), passing a valid MANTIS user ID and password. This bypasses the standard MANTIS sign-on screen and transfers control directly to the user's facility program. CONTROL:SIGN_ON can receive parameters for user ID, password, facility program name, and parameter data to be passed to the facility program as part of the CHAIN.

The CONTROL:SIGN_ON program checks for a valid user ID and password before transferring control to the user's facility program. If no user ID and password are passed to CONTROL:SIGN_ON, the MANTIS sign-on screen (MASTER:SIGN_ON) displays.

Control is retained within the facility program until the user exits. At that time, the facility program passes control to MASTER:TERMINATE via a CHAIN statement. (MASTER:TERMINATE enables you to expand or modify the way a MANTIS session ends, in the same way that MASTER:SIGN_ON lets you expand or modify the way a session starts.) MASTER:TERMINATE must finish with a CHAIN statement that passes control to CONTROL:TERMINATE.

MANTIS will also internally CHAIN to CONTROL:TERMINATE if the user's facility program has a MANTIS error (fault) while running.

If you use background tasks or the MANTIS shared pool (which loads the pool in the background), you must bypass any code that modifies the terminal or calls an interface program that does. In the MASTER:SIGN_ON program, lines 270-440 contain commented examples of these statements. If you remove the comments from lines 340-400, MANTIS will execute line 350 if you are running a background task, or lines 380 and 390 if you are running Batch MANTIS.

Specifying the facilities available to a user

The user's facility program is the main menu, or home screen, for the user. Limiting the options that are available on a user's facility program limits the tasks that user can perform.

You specify the available design facilities (screen design, program design, etc.) by assigning a facility program in the Facility Program field of the user profile (using the User Profile Design Facility, option 7 on the Master User's Facility Selection menu).

If you decide to make all standard MANTIS design facilities available to a user, simply assign the program named MASTER:START_FACILITY. MASTER:START_FACILITY is the standard facility program for non-MASTER users. If you do not want to make the standard design facility programs available for a particular user, you can write a special facility program for that user.

You can use any MANTIS program as a facility program. The following code shows the menu program for the Burrys application. For example, this menu program could be used as a facility program:

```
00100 ENTRY CUST_MENU
00110 .SCREEN MAP("CUST_MENU")
00120 .| THIS IS THE CUSTOMER ACCOUNTS MENU
00130 .CONVERSE MAP
00140 .WHILE MAP<>"CANCEL"
00150 ..WHEN ACTION=1 OR MAP="PF1"
00160 ...CHAIN"CUST_ENTRY"
00170 ..WHEN ACTION=2 OR MAP="PF2"
00180 ...CHAIN"CUST_BROWSE"
00190 ..END
00200 ..CLEAR MAP
00210 ..CONVERSE MAP
00220 .END
00230 EXIT
```

The program presents a menu to choose between customer entry or customer browse. To enter customers, the user presses PF1; to display customers, the user presses PF2; and to end the customer accounting application, the user presses CANCEL. No other choices are available to the user with this facility program.

MANTIS provides several standard design facility programs that you can specify in your facility menu program:

Facility to be invoked	Identity
Run a program by name	CONTROL:RUN_A_PROGRAM
Display a prompter	CONTROL:DISPLAY
Design a program	CONTROL:PROGRAM
Design a screen	CONTROL:ASP
Design a MANTIS file view	CONTROL:SETS
Design a prompter	CONTROL:PROMPTER
Design an interface	CONTROL:INTERFACE
Design a TOTAL file view	CONTROL:TOTAL_VIEW
Design an external view	CONTROL:ACCESS
DL/I access view	CONTROL:DLI_FACILITY
Sign on as another user	CONTROL:SIGN_ON
Query report writer	CONTROL:RUN_SPECTRA
Directory facility	CONTROL:DIRMMENU
Transfer facility	CONTROL:TRANSFER
Cross reference facility	CSI_XREF:MENU
Entity transformers	CASE:CASE_SELECT
Universal export facility	CONTROL:EXP_MAIN_CCB
MANTIS print facility (online)	CONTROL:MPFMMENU
MANTIS print facility (batch)	CONTROL:MPFREADR
Old interface facility	CONTROL:INTERFACE_37
Single-level transfer facility	CONTROL:TRANSFER_ONE_LVL
Search Facility	CONTROL:SEARCH_FACILITY
Terminate session	MASTER:TERMINATE

To invoke a facility, use the CHAIN statement (shown in the previous program example) in the format:

```
CHAIN"identity"
```

…where “identity” is one of the design facility programs supplied with MANTIS. The CHAIN statement transfers control from one MANTIS program to another. (For detailed information on using the CHAIN statement, refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002.)

The following code shows a sample portion of a facility program named MASTER:FACILITY (the default facility program for the MASTER user):

```
00010 ENTRY FACILITY_SELECTION:| MANTIS 5.4
00020 .OUTPUT SCREEN
00030 .COMMIT
00040 .SCREEN MAP("FACILITY")
00050 .IF USER="MASTER"
00060 .. UNTIL MAP="CANCEL"OR MAP="PF12"OR MAP="PF3"
00070 ...CONVERSE MAP
00080 ...WHEN MAP="PF1" OR OPTION=1
00090 ....CHAIN"CONTROL:RUN_A_PROGRAM"
           ...
07100 ..END
07200 ..CHAIN"MASTER:TERMINATE"
         ...
```

A facility program in a Dynamic Transaction Backout (DTB) system must have a COMMIT statement (line 30 in the preceding example) at the beginning of the program to force termination of a Logical Unit of Work (LUW). (For detailed information on using the COMMIT statement, refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002.)

Have subordinate programs execute a STOP statement when you want to return to the facility program, rather than hard-coding a CHAIN statement to the facility program name. This will allow you to change facility program names on your systems by changing user profiles, rather than editing working program code.

By using the standard MANTIS facility programs and creating your own customized routines, you can fully customize a user’s facility selections. Administratively, either you, as the MASTER user, or the lead programmers for each system team may want to develop the end-user or programmer facility programs. The MASTER user, though, must add the facility program specification to the USER profile.

Customizing the sign-off procedure

To terminate MANTIS, your facility program or application program CHAINs to the program MASTER:TERMINATE. This process allows you to perform certain Master User installation-dependent functions before exiting from MANTIS.

MASTER:TERMINATE functions let you:

- Sign off databases or security systems
- Log activity notes
- Perform any site-related termination logic, such as calling interfaces

To perform these functions, modify the MASTER:TERMINATE program in your library as required.

When modifying the MASTER:TERMINATE program, leave one terminal signed-on to MASTER while you test your changes thoroughly at another terminal. The terminal signed-on to MASTER allows you to make corrections if an error occurs.

If you cannot use two terminals, back up the MANTIS Setpray cluster before you make changes. Then, if you accidentally make changes preventing you from signing on to MANTIS, you can restore the backup cluster.

The following code shows the program MASTER:TERMINATE:

```
00010 ENTRY TERMINATE(RETURN_CODE)
00020 .|
00030 .| This program can be modified by the Master User to
00040 .| invoke various installation-dependent housekeeping
00050 .| functions before exiting from MANTIS.
00060 .|
00070 .BIG RETURN_CODE:|   return code to be used in Batch MANTIS
00080 .CHAIN"CONTROL:TERMINATE",RETURN_CODE
00090 EXIT
```

MANTIS uses RETURN_CODE to provide a return status when running in batch. You can also use this to return a status for any applications that you run using Batch MANTIS. For example, your programs can include the following code:

```
09980 .RETURN_CODE=4
09990 .CHAIN"MASTER:TERMINATE",RETURN_CODE
```

Have all facility programs chain to the MASTER:TERMINATE program when you wish to terminate MANTIS. Following this standard allows you to modify or add functions to the sign off process in the future. MASTER:TERMINATE must finish by CHAINing to CONTROL:TERMINATE. Do not have other programs finish by CHAINing to CONTROL:TERMINATE or you will lose the ability to customize the sign-off procedure for those programs.

Step-by-step: Altering the facility program for the ACCOUNTS user

Now that the Burrys customer accounting system has been created (in the *MANTIS Application Development Tutorial, OS/390, VSE/ESA*, P39-5026) and tested, you are ready to put it into production.

Since users in the Accounting Department will no longer use the standard MANTIS facilities such as Screen Design and Program Design, you want to make the customer accounting menu (CUST_MENU) the facility program for the ACCOUNTS user. That way, when users sign on, the customer accounting menu will automatically display.

When doing this exercise, leave one terminal signed-on to MASTER while you test your changes thoroughly at another terminal. The terminal signed-on to MASTER allows you to make corrections if an error occurs.

If you cannot use two terminals, back up the MANTIS Setpray cluster before you make changes. Then, if you accidentally make changes preventing you from signing on to MANTIS, you can restore the backup cluster.

Step 1: Altering the ACCOUNTS user

In chapter 4, you transferred the customer accounting system menu program to the ACCOUNTS user. You are now ready to make this program the facility program for the ACCOUNTS user, so that the menu displays when users sign on to ACCOUNTS.

To begin, sign on as the MASTER user and select the User Profile Design Facility. (Enter 7 in the action field and press ENTER.) The User Profile Design Facility menu displays. Enter ACCOUNTS in the Name of user field:

```
                    M  A  N  T  I  S

                User Profile Design Facility

        Name of user  ..................... : ACCOUNTS         :

            Insert a new user profile  .............   1
            Inspect an existing user profile  .....   2
            Alter an existing user profile  .......   3
            Directory of users  ....................  4
            Print user profile  ....................  5
            Delete user  ...........................  6
            Maintain user PF keys and options  ....   7
            Create extended program profiles  .....   8
            Purge extraneous program profiles  ....   9
            Display user map  ......................  10
            Show user names and codes  .............  11
            Show valid language codes  .............  12
            Terminate this facility  ..........  CANCEL

                           :    :
```

Press PF3 to select the Alter an existing user profile option. The user profile displays. In the Facility Program field, enter ACCOUNTS:CUST_MENU, as shown:

```
                        M  A  N  T  I  S

                   User Profile Design Facility
      Name and description of User  ..........  ACCOUNTS
      BURRYS CUSTOMER ACCOUNTS DEPT
      Password ..............................  BURRYS
      Facility Program ......................  ACCOUNTS:CUST_MENU
      Status  ...............................  ACTIVE
      Statements per Slot  ..................  5000
      Slots before interrupt  ...............  20
      Associated Printer  ...................  PRN1
      Printer Exit name  ....................
      Conversational mode (CICS only)  ......  NO
      Middle East Countries Terminal  .......  NO
      Language Code  ........................  ENU
      Automatic open of TOTAL files  ........  NO
      Decimal Point  ........................  .
      Restrict design of TOTAL views  .......  NO
         "       "    " External file views  .  NO
      Log CEF operations  ...................  NO
      CEF statement/source default character  .  @
      Internal User code  .................Dec:  19   Hex: 0013

   FACU04A:Press ENTER to update, CANCEL key to cancel change and exit
```

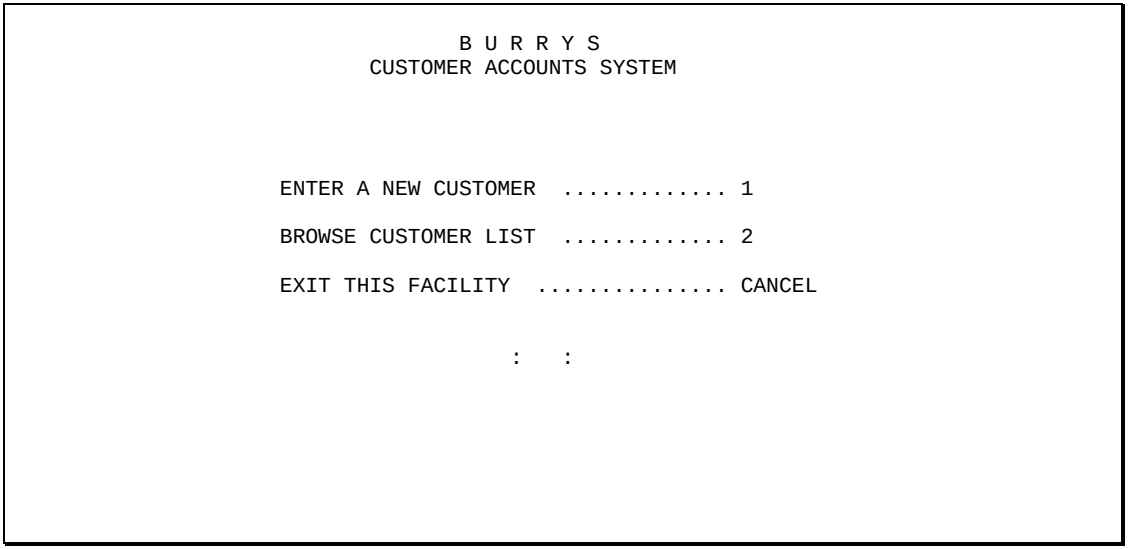
Entering ACCOUNTS:CUST_MENU in the Facility Program field specifies that the program resides in the ACCOUNTS library and it is called CUST_MENU. This is the program that MANTIS will run when someone signs on to the ACCOUNTS user.

Press ENTER to make this change to the ACCOUNTS user profile. MANTIS returns you to the User Profile Design Facility menu and displays a confirmation message indicating that the user profile has been updated.

Press the CANCEL key to return to the Facility Selection menu.

Step 2: Signing on as the ACCOUNTS user

Leave your first MANTIS session signed on to the MASTER user, *and start a different MANTIS session.* Sign on as the ACCOUNTS user. As soon as you enter the user name (ACCOUNTS) and the password (BURRYS) and press ENTER, the customer accounts system menu displays:



You can now access the customer entry screen by pressing PF1, or browse the customer list by pressing PF2. However, there is one critical problem with the new facility program: as originally written, the CUST_MENU program does not CHAIN to MASTER:TERMINATE. Therefore, there is no way to exit MANTIS. This was not important when we were executing the program from within programming mode or by RUN A PROGRAM BY NAME, but it is critical when we are running the program as a facility program.

Normally, you could press the CANCEL key, or enter KILL in the bottom, right corner of the screen and press ENTER, and the program should return to the user's Facility Selection menu. When you pressed CANCEL again, the facility program would CHAIN to MASTER:TERMINATE and you would exit from MANTIS.

However, in this case we have replaced the standard facility program with the customer accounts system menu. When you press the CANCEL key, MANTIS gives control to the facility program for the ACCOUNTS user, but that is this program. Since this program does not CHAIN to MASTER:TERMINATE, the program loops and there is no way for you to exit MANTIS.

Leaving this session active, return to the other MANTIS session where you are still signed on as the MASTER user.

Step 3: Modifying the menu program

In order to use the customer menu program (CUST_MENU) as a facility program, you must modify it to CHAIN to the program MASTER:TERMINATE. The MASTER:TERMINATE program in turn CHAINS to the CONTROL:TERMINATE program, which terminates MANTIS.

To modify the CUST_MENU program, select the Design a Program option from the MASTER Facility Selection menu by entering 3 in the action field and pressing ENTER. The Program Design Facility menu displays:

```
PRGMMENU01     Program Design Facility (MASTER)           YYYY/MM/DD HH:MM:SS
===>

Please select one of the menu items below.

    Program     Component Engineering  Bind Options    Utilities

___ 1. List      7. CEF Check          12. HPO Check   18. Audit Trail
    2. Edit      8.  "  Compose        13.  "  Bind    19. Browse Audit Trail
    3. Profile   9.  "  Decompose      14.  "  Unbind  20.    "   Prgm Profile
    4. Purge    10. CREF Programs      15. SQL Check   21. Trigger List
    5. Copy     11. Bill of Materials  16.  "  Bind    22. SQL Maint
    6. Rename                          17.  "  Unbind









FAC000I:  READY
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F9=RETRIEVE F12=CANCEL ...
```

On the command line (===>) enter the following command:

```
edit "accounts:cust_menu/burrys"
```

This command specifies the user name (ACCOUNTS), since the program resides on another user. It then specifies the program name (CUST_MENU) and the password (BURRYS), since it is different from your own.

Press ENTER. MANTIS loads the CUST_MENU program from the ACCOUNTS user into the Full-Screen Editor:

```
EDIT L1--- ACCOUNTS:CUST_MENU                                  COLUMNS  1     73
COMMAND ===>                                                   SCROLL ===>   PAGE
***** ********************** START OF PROGRAM ******************************
00100 ENTRY CUST_MENU
00110 .SCREEN MAP("CUST_MENU")
00120 .| THIS IS THE CUSTOMER ACCOUNTS MENU
00130 .CONVERSE MAP
00140 .WHILE MAP<>"CANCEL"
00150 ..WHEN ACTION=1 OR MAP="PF1"
00160 ...CHAIN"CUST_ENTRY"
00170 ..WHEN ACTION=2 OR MAP="PF2"
00180 ...CHAIN"CUST_BROWSE"
00190 ..END
00200 ..CLEAR MAP
00210 ..CONVERSE MAP
I 220 .END
00230 EXIT
***** ********************** END OF PROGRAM *******************************
```

On the line above the EXIT statement (line 220 in this example), enter i over the line number and press ENTER. MANTIS inserts a blank line:

```
EDIT L1--- ACCOUNTS:CUST_MENU                                  COLUMNS  1     73
COMMAND ===>                                                   SCROLL ===>   PAGE
***** ********************* START OF PROGRAM ******************************
00100 ENTRY CUST_MENU
00110 .SCREEN MAP("CUST_MENU")
00120 .| THIS IS THE CUSTOMER ACCOUNTS MENU
00130 .CONVERSE MAP
00140 .WHILE MAP<>"CANCEL"
00150 ..WHEN ACTION=1 OR MAP="PF1"
00160 ...CHAIN"CUST_ENTRY"
00170 ..WHEN ACTION=2 OR MAP="PF2"
00180 ...CHAIN"CUST_BROWSE"
00190 ..END
00200 ..CLEAR MAP
00210 ..CONVERSE MAP
00220 .END
''''' .chain"master:terminate"
00230 EXIT
***** ********************* END OF PROGRAM *******************************
```

Next to the single quotes ('), enter the following program statement:

```
CHAIN"MASTER:TERMINATE"
```

Press ENTER to add the line to your program; then, on the command line (===>) enter REPLACE and press ENTER. MANTIS replaces the CUST_MENU program in the ACCOUNTS user library.

Adding the CHAIN"MASTER:TERMINATE" statement after the WHILE-END loop ensures that you can exit from MANTIS when you press the CANCEL key from the CUST_MENU screen.

Step 4: Signing off the ACCOUNTS user

Leaving this session signed on to the MASTER user, return to your other CICS session. The Customer Accounts System menu still displays:

```
                    B U R R Y S
                CUSTOMER ACCOUNTS SYSTEM



   ENTER A NEW CUSTOMER  ............. 1

   BROWSE CUSTOMER LIST  ............. 2

   EXIT THIS FACILITY  ............... CANCEL

                         :   :
```

Press the CANCEL key to exit this facility. Now, press the CANCEL key again, and MANTIS terminates.

The first time that you pressed CANCEL, MANTIS exited from the original version of the program and loaded the new version of the program—the version of the program that you just modified—that CHAINs to MASTER:TERMINATE. Therefore, the second time that you pressed CANCEL, the CUST_MENU program chained to MASTER:TERMINATE and terminated MANTIS.

You can now close this MANTIS session and return to the session where you are signed on as the MASTER user.

Exercise

In this exercise, you'll create a new user and then customize the facility program for that user.

Following the procedures discussed in chapter 2, "Creating user profiles" on page 31, create a new user called CUST_MENU, with a password of BURRYS. Specify CUST_MENU as the facility program and save the user.

Next, following the procedures discussed in chapter 4, "Copying MANTIS entities" on page 67, transfer the Burrys programs, screens, files, and prompter from the ACCOUNTS user to the CUST_MENU user.

Now, *using a different MANTIS session*, test your changes by signing on to CUST_MENU. You should be able to select the customer entry option by pressing PF1, and the customer browse option by pressing PF2. When you press the CANCEL key, MANTIS should terminate.

6

Using mixed case in MANTIS

This chapter presents the basic concepts of MANTIS mixed case support, and guides you step-by-step through two methods for enabling mixed case support in the Screen Design Facility and the Prompter Design Facility.

Learning outline

In this chapter, you will learn how:

- The Customization Macro parameter TRCODE affects uppercase translation.
- To run MANTIS programs that call the UCTRAN interface to toggle uppercase translation on or off.
- To create exit programs that toggle mixed case support on when a user enters option 1 of the Screen Design Facility or Prompter Design Facility, and toggle it off again when the user leaves option 1.

Basic concepts: Understanding mixed case support

MANTIS screens, prompters, programs, and error messages can be designed with mixed case format. TEXT variables can also contain mixed case data. Program reserved words, entity names, and user vocabulary words, such as variables, are always kept in, or translated to, uppercase format. There are several places and options, inside and outside MANTIS, that control case translation.

Mixed case format means that uppercase and lowercase letters (as text is normally written in a sentence or title) will be displayed as entered into MANTIS. (This should not be confused with MIXED MODE, that permits TEXT variables to hold both single- and double-byte character sets, such as Japanese Kanji).

Uppercase format means that the software (either CICS or MANTIS) translates the mixed case letters entered at the terminal into all uppercase letters.

In CICS, you specify whether or not uppercase translation is performed through the UCTRAN attribute of the terminal definition for a specific terminal. Cincom supplies two programs on the MASTER user that toggle the UCTRAN attribute on or off.

These programs, UTIL_SET_CASE_UPP_SETU and UTIL_SET_CASE_LOW_SETU, in turn call an external interface program, CSOXSETU, that is supplied by Cincom. (For more detailed information on using interface programs, see “MANTIS and non-MANTIS programs working together” on page 125.)

In order for MANTIS to control uppercase translation, the program CSOXSETU must be defined to CICS, and the load module must be available in the DFHRPL DDname concatenation or LIBDEF search chain.

If CICS (or some other software) is not doing uppercase translation before the data stream reaches MANTIS, then MANTIS controls uppercase translation at the system, terminal, or field level. The TRCODE parameter of the MANTIS Customization Macro allows MANTIS to perform uppercase or lowercase translation.

The default value for TRCODE in the Customization Macro is Y, which means that uppercase translation by MANTIS will take place, depending upon other statements and functions used in MANTIS. If you change this value to N, then uppercase translation by MANTIS never takes place under any circumstances (that is, MANTIS presents text as entered by the user). Normally TRCODE=N should only be used for multi-language, uppercase-only Roman character terminals, such as Hebrew and Japanese terminals.

The following table shows the translation that takes place when TRCODE=Y:

Parameter settings			
C$OPCUST TRCODE=	**ATTRIBUTE (TERMINAL)=**	**Field UPPERCASE***	**Translation to uppercase in MANTIS?**
Y	LOW	N	No
Y	LOW	Y	Yes
Y	UPP	Any	Yes
N	Any	Any	No

* ATTRIBUTE(map,field)="UPP" is equivalent to Screen Design UPPERCASE Yes.
ATTRIBUTE(map,field)="LOW" is equivalent to Screen Design UPPERCASE No.

With TRCODE set to Y and ATTRIBUTE(TERMINAL) set to lowercase, if you save an entity such as a screen, MANTIS translates the entity name to uppercase but does not translate the password or description. However, many shops have programming standards that require all passwords to be uppercase.

If you would like all passwords to be saved in uppercase, but you would like to create screens and prompters with mixed case, MANTIS provides two programs on the MASTER user that you can use to tailor mixed case support at your site.

The programs UTIL_PRE_PAINT_SAMPLE2 and UTIL_POST_PAINT_SAMPLE2 are sample exits that toggle mixed case support on when a user enters option 1 of the Screen Design Facility or the Prompter Design Facility, and then toggle it off again when the user leaves option 1. Since uppercase translation has been turned on again, if the user enters lowercase letters for the password or description in the Library Functions, MANTIS automatically translates them to all uppercase.

In order to use these exits, you must load them into the Full-Screen Editor and save them as UTIL_PRE_PAINT_EXIT and UTIL_POST_PAINT_EXIT, respectively. When you do so, all MANTIS users will have mixed case support for option 1 of the Screen Design Facility and the Prompter Design Facility (as long as CICS is not translating the text to uppercase).

Step-by-step: Using mixed case in screens and prompters

Now that you understand some basic concepts for MANTIS mixed case support, you're ready to start using mixed case support in your screens and prompters.

The instructions in this section assume that when you installed MANTIS, you let the TRCODE parameter retain its default value (Y) in the Customization Macro.

Step 1: Verifying that uppercase translation is turned on

To verify that uppercase translation is turned on, sign on as the MASTER user. On the Facility Selection menu, select the Screen Design Facility by entering 4 in the action field and pressing ENTER. The Screen Design Facility menu displays.

Press PF1 to select option 1, Create or update a screen. The screen design work area displays. Enter a series of mixed case (both uppercase and lowercase) letters:

```
. MANTIS Screen Design Facility
.
.
.
+
.
.
.
.
1
.
.
.
.
+
.
.
.
.
2
.
.
ASP026A: 'ENTER' to update, HELP for instructions, CANCEL to terminate
```

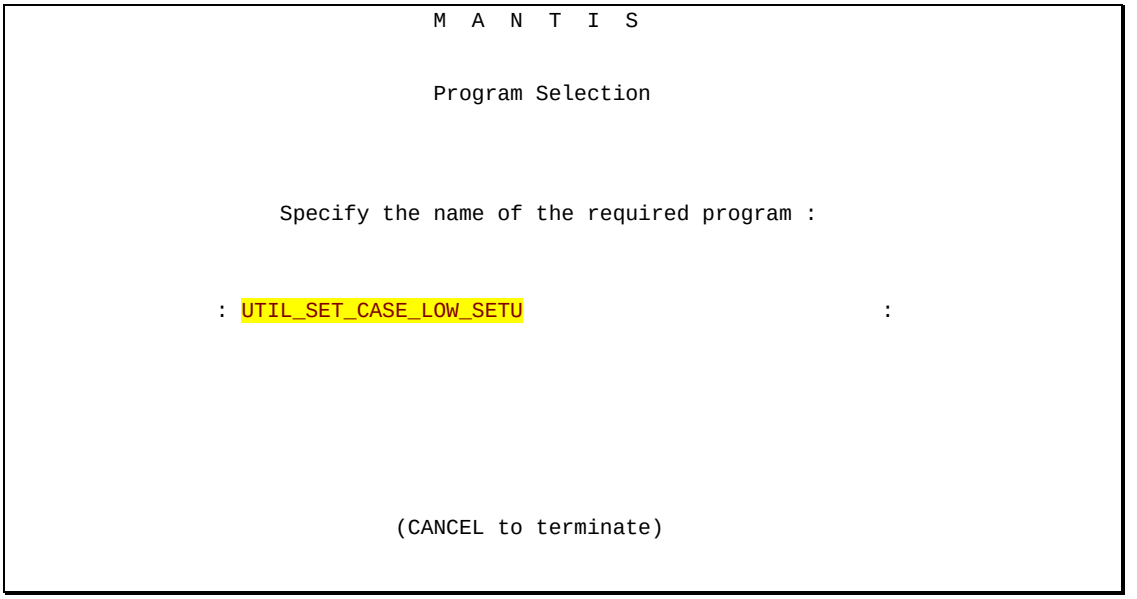
Press ENTER. If mixed case support is toggled off, MANTIS will translate all the lowercase letters you entered into uppercase:

```
. MANTIS SCREEN DESIGN FACILITY
.
.
.
+
.
.
.
.
1
.
.
.
.
+
.
.
.
.
2
.
.
ASP026A: 'ENTER' to update, HELP for instructions, CANCEL to terminate
```

Press the CANCEL key three times to return to the Facility Selection menu. (You do not need to save the changes you made to the screen design.)

Step 2: Turning mixed case support on

Select option 1, Run a Program by Name, from the standard MASTER Facility Selection menu, by entering 1 in the action field and pressing ENTER. The Program Selection screen displays, with the cursor positioned in the program name field. Enter the name of the program, UTIL_SET_CASE_LOW_SETU, as shown:



If you are running from a user other than MASTER, you will need to specify the full library name: MASTER:UTIL_SET_CASE_LOW_SETU.

Press ENTER. MANTIS runs the program and returns you to the Facility Selection menu.

Step 3: Verifying that mixed case support is turned on

Now, let's return to the Screen Design Facility to verify that mixed case support is turned on. On the Facility Selection menu, select the Screen Design Facility by entering 4 in the action field and pressing ENTER. The Screen Design Facility menu displays.

Press PF1 to select option 1, Create or update a screen. The screen design work area displays. Again, enter a series of mixed case (both uppercase and lowercase) letters:

```
. MANTIS Screen Design Facility
.
.
.
+
.
.
.
.
1
.
.
.
.
+
.
.
.
.
2
.
.
ASP026A: 'ENTER' to update, HELP for instructions, CANCEL to terminate
```

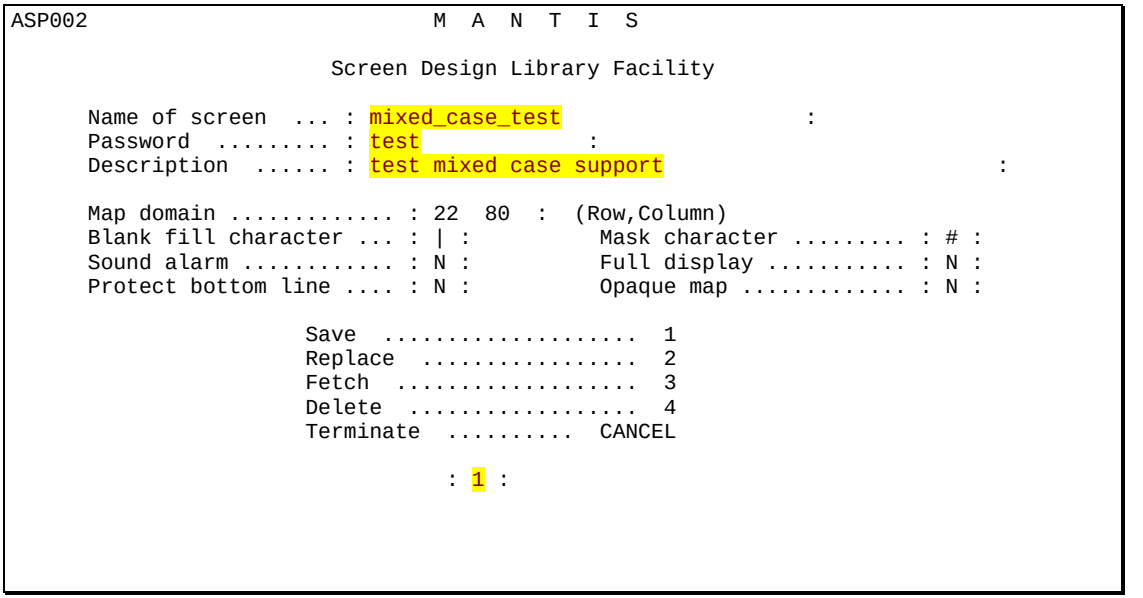
Press ENTER. This time, MANTIS does not translate the lowercase letters you entered into uppercase, but displays the text as you entered it:

```
. MANTIS Screen Design Facility
.
.
.
+
.
.
.
.
1
.
.
.
.
+
.
.
.
.
2
.
.
ASP026A: 'ENTER' to update, HELP for instructions, CANCEL to terminate
```

Press the CANCEL key to return to the Screen Design Facility menu.

Step 4: Saving the screen with a lowercase password

Press PF7 to select the Library functions option. Enter the lowercase name, password, and description as shown:



Press PF1 to save this screen. MANTIS returns to the Screen Design Facility menu and displays a confirmation message indicating that the screen has been saved.

Press PF8 to select the Directory of screens option. The Directory of Screens displays:

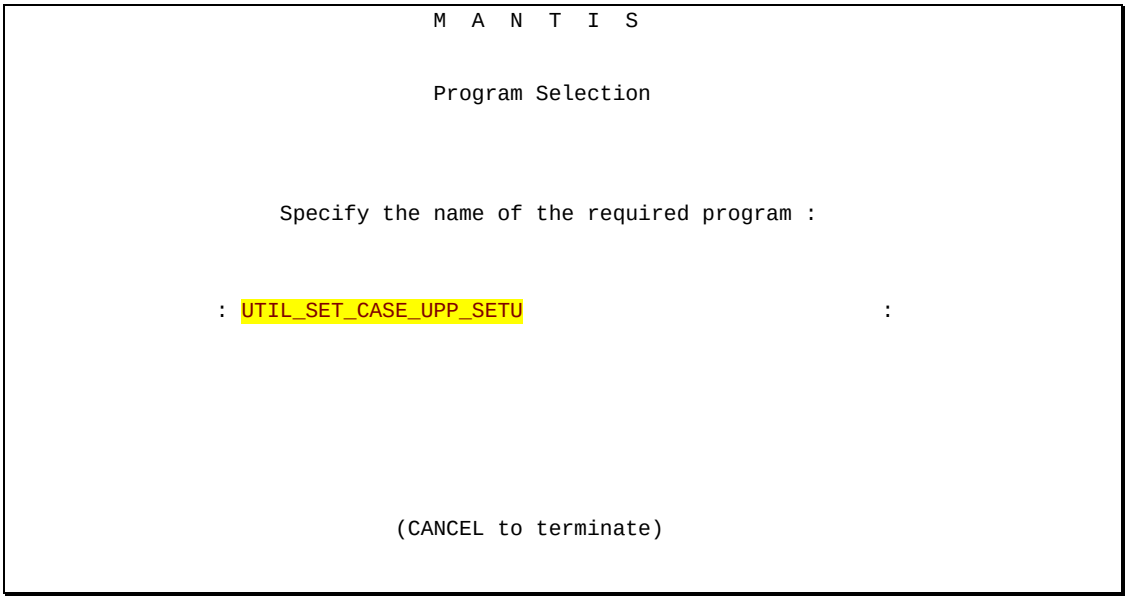
```
DIR003                        Directory of Screens                    YYYY/MM/DD
MASTER                                                                  HH:MM:SS
 ------Name------ ----Password---- Fmt --------------Description----------------
 MIXED_CASE_TEST  test             NEW test mixed case support
```

Notice that MANTIS has translated the screen name into all uppercase letters, but the password and description remain in all lowercase letters, just as you entered them. This screen can be fetched from the cluster at anytime, but it cannot be replaced unless you are in mixed case mode, because the password is in lowercase letters.

Press the CANCEL key twice to return to the Facility Selection menu.

Step 5: Turning uppercase translation on

Before we proceed, we need to turn uppercase translation on again. Select option 1, Run a Program by Name, by entering 1 in the action field and pressing ENTER. Enter the name of the program, UTIL_SET_CASE_UPP_SETU, as shown:



Press ENTER. MANTIS runs the program and returns you to the Facility Selection menu.

Step 6: Creating exits to toggle mixed case support on and off

You would like to ensure that all passwords and descriptions are saved in uppercase, but you would like to create screens and prompters with mixed case. To do so, you need to establish the programs UTIL_PRE_PAINT_EXIT and UTIL_POST_PAINT_EXIT.

These exits will toggle mixed case support on when a user enters option 1 of the Screen Design Facility or the Prompter Design Facility, and then toggle it off again when the user leaves option 1. The MANTIS design facilities for screens and prompters will call them at the appropriate times.

To establish these exits, you will copy samples and give them these special names. From the MASTER Facility Selection menu, select Design a Program by entering 3 in the action field and pressing ENTER. The Program Design Facility menu displays. On the command line (===>), enter COPY and press ENTER. The COPY Program Entry screen displays. Enter the From Name and To Name as shown:

```
 PRGMENT201      COPY Program Entry                      YYYY/MM/DD HH:MM:SS
===>
From
  Library . . .  MASTER
  Name  . . . .  UTIL_PRE_PAINT_SAMPLE_2          Password :               :
  Description .

To
  Library . . .  MASTER
  Name  . . . .  UTIL_PRE_PAINT_EXIT              Password :               :
  Description .  CUSTOMER TEST - SOURCE

Entry Options              Function Options          Process Statistics
  Immediate? . . . .  Y      Replace if found? . .  N   Processed  . .
  Confirmation?  . .  N                                   Replaced . . .
                                                          Skipped  . . .
                                                          Errors . . . .


000: READY
F1=HELP F2=EXHELP F3=EXIT F4=PROMPT F5=REFRESH F6=EXECUTE F7=CONFIRM ...
```

Press PF6 to execute the Copy action. MANTIS displays a confirmation message at the bottom of the screen, indicating that the copy was successful. You have just created the UTIL_PRE_PAINT_EXIT program.

Next, you need to create the UTIL_POST_PAINT_EXIT program. Enter the From Name and To Name as shown:

```
 PRGMENT201      COPY Program Entry                      YYYY/MM/DD HH:MM:SS
===>
From
  Library . . .  MASTER
  Name  . . . .  UTIL_POST_PAINT_SAMPLE_2        Password :               :
  Description .

To
  Library . . .  MASTER
  Name  . . . .  UTIL_POST_PAINT_EXIT            Password :               :
  Description .  CUSTOMER TEST - SOURCE

Entry Options              Function Options          Process Statistics
  Immediate? . . . .  Y      Replace if found? . .  N   Processed  . .
  Confirmation?  . .  N                                   Replaced . . .
                                                          Skipped  . . .
                                                          Errors . . . .


000: READY
F1=HELP F2=EXHELP F3=EXIT F4=PROMPT F5=REFRESH F6=EXECUTE F7=CONFIRM ...
```

Press PF6 to execute the Copy action. MANTIS displays a confirmation message at the bottom of the screen, indicating that the copy was successful.

Now that you have created these two exits, mixed case support will toggle on anytime that a user enters option 1 of the Screen Design Facility or the Prompter Design Facility, and then toggle off again when the user leaves option 1.

Press the CANCEL key twice to return to the Facility Selection menu.

Step 7: Testing the new exits

Now, let's return to the Screen Design Facility to verify that the new exits are working. On the Facility Selection menu, select the Screen Design Facility by entering 4 in the action field and pressing ENTER. The Screen Design Facility menu displays.

Press PF1 to select option 1, Create or update a screen. The screen design work area displays. Again, enter a series of mixed case (both uppercase and lowercase) letters:

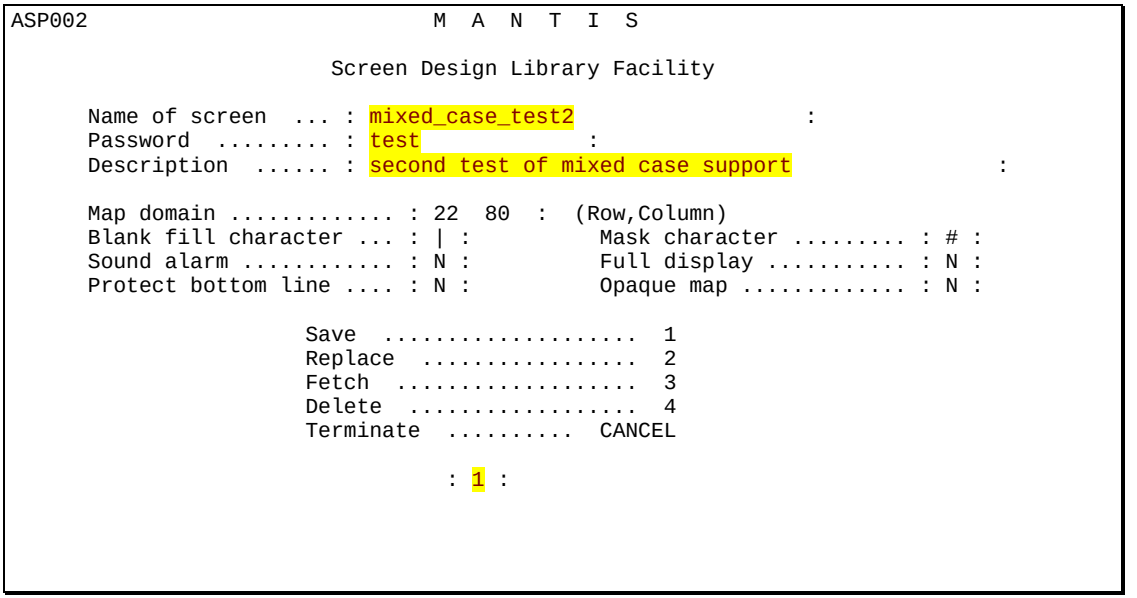
```
. MANTIS Screen Design Facility
.
.
.
+
.
.
.
.
1
.
.
.
.
+
.
.
.
.
2
.
.
ASP026A: 'ENTER' to update, HELP for instructions, CANCEL to terminate
```

Press ENTER. Now that the exits are in place, MANTIS does not translate the lowercase letters you entered into uppercase, but displays the text as you entered it, indicating that the UTIL_PRE_PAINT_EXIT is working correctly:

```
. MANTIS Screen Design Facility
.
.
.
+
.
.
.
.
1
.
.
.
.
+
.
.
.
.
2
.
.
ASP026A: 'ENTER' to update, HELP for instructions, CANCEL to terminate
```

Press the CANCEL key to return to the Screen Design Facility menu.

Press PF7 to select the library functions. Enter the lowercase name, password, and description as shown:



To save this screen, press PF1 or enter option 1. MANTIS returns to the Screen Design Facility menu and displays a confirmation message indicating that the screen has been saved.

Press PF8 to select the Directory of screens option. The Directory of Screens displays:

```
DIR003                        Directory of Screens                      YYYY/MM/DD
MASTER                                                                    HH:MM:SS
 ------Name------ ----Password---- Fmt --------------Description----------------
 MIXED_CASE_TEST  test             NEW test mixed case support
 MIXED_CASE_TEST2 TEST             NEW SECOND TEST OF MIXED CASE SUPPORT
```

Notice that MANTIS has translated the screen name, password, and description all into uppercase letters. This indicates that mixed case support was toggled off again, so the UTIL_POST_PAINT_EXIT is working correctly.

In addition to the MIXED_CASE_TEST and MIXED_CASE_TEST2 screens, you will see several other screens in this directory list. These screens are distributed with MANTIS.

Press the CANCEL key twice to return to the Facility Selection menu.

Exercises

There are no exercises for this chapter.

7

MANTIS and non-MANTIS programs working together

This chapter explains how MANTIS and non-MANTIS programs work together. It then guides you step-by-step through creating a special "back door" access to the MASTER user that will allow you to sign on to MANTIS in the event that problems occur, and you cannot sign on using the normal path.

Learning outline

In this chapter you will learn how to:

- Use the CALL and PERFORM statements to invoke external programs from MANTIS.
- Start MANTIS from an external program.
- Use the CICS LINK, START, or XCTL command to access MANTIS from an external program.
- Create an external interface program that will return the current transaction ID to the MANTIS program.
- Create a MANTIS interface profile and CALL the interface program from the MASTER:SIGN_ON program.

Basic concepts: Understanding how MANTIS and non-MANTIS programs work together

This section explains how to invoke non-MANTIS programs using the CALL and PERFORM statements in CICS. Other environments and platforms will vary slightly (for example, Batch, MANTIS for OpenVMS, Unix, and Windows).

This section also discusses how to start MANTIS from an external program, and how to use CICS LINK command to access MANTIS from an external program.

Using the CALL and PERFORM statements

You can invoke non-MANTIS Cobol, Assembler, or PL/1 programs from MANTIS using the CALL and PERFORM statements.

The CALL statement invokes an interface program. When the CALL statement is used, MANTIS performs the following:

- Calls the program specified in the interface profile.
- Passes fields defined in the Interface Layout.
- Sets the symbolic name variable equal to the status returned by the called program.

The PERFORM statement invokes a user-written COBOL, Assembler, or PL/I target program without passing parameters to it. When you perform another program, your program can either return to MANTIS or transfer control to a new program. CICS users can also use the PERFORM statement to run a MANTIS transaction or an external transaction as a background task.

Using the CALL statement

To use the CALL statement, you must design an interface layout view that names the external program. Fields in the interface layout are data elements to be passed to and from an external program. If the external program is a Cobol program, the interface data elements are mirrored in the Linkage section of that program.

Once the interface layout is defined and the external program is created, compiled, and defined to CICS, you can write a MANTIS program to call the interface program.

The CALL statement executes a CICS LINK, so when the external interface program is finished running, control returns to the program statement following the CALL statement. For example, CSOXSETU is an interface that names CSOXSETU as the interface program (assembler source in the source library). The MANTIS program MASTER:UTIL_SET_CASE_LOW_SETU that you ran in chapter 6 then calls CSOXSETU to set the UCTRAN (CICS terminal uppercase translation) attribute off.

Using the PERFORM statement

There are many variations of the PERFORM statement. This section discusses one common use, which is PERFORM"program_name".

The PERFORM"program_name" statement invokes a program that is external to MANTIS. This program must be defined to CICS. There is no interface layout view associated with a performed program, and thus no data is passed.

Like the CALL statement, control is passed using the CICS LINK statement. After the external program is finished, control is returned to the program statement following the PERFORM statement. The performed program can do terminal I/O, so you can write a menu program in MANTIS that invokes a combination of MANTIS programs and pre-existing applications that are written in other languages.

An external program invoked with the XCTL option gains control from MANTIS through the EXEC CICS XCTL command. This transfers control without returning to MANTIS; therefore, MANTIS is terminated. If MANTIS is restarted with a START,XCTL, etc., control is *not* returned to the next statement following the PERFORM statement, but beginning with the MASTER:SIGN_ON Program.

If you have a menu program that is already written in another language, you can add an option to start a MANTIS program that is associated with the terminal and terminates MANTIS. Upon completion, the MANTIS program could transfer control back to the menu program by doing a PERFORM with the XCTL option.

Starting MANTIS from an external program

As mentioned previously, MANTIS can be started just like any other CICS task. The following sample code indicates how you could start a MANTIS program *in the background* (that is, not attached to a terminal) to do some processing that requires no operator intervention:

```
          EXEC CICS START INTERVAL(0) TRANSID (BTRANID) FROM(BDATA)     X
               LENGTH(BDATAL) NOHANDLE
          EXEC CICS RETURN
*
          DS    0H
BDATAL    DC    Y(BDATAE-BDATA)          LENGTH OF BACKGROUND DATA
BDATA     DS    0H                       BACKGROUND MANTIS DATA
          DC    X'3'                        INDICATE BACKGROUND
BTRANID   DC    CL8'MANT'                   TRANSID FOR MANTIS
BUIDL     DC    HL2'8'                      LENGTH OF USERID
BUID      DC    CL16'ACCOUNTS'              USER ID
BPSWL     DC    HL2'6'                      LENGTH OF PASSWORD
BPSW      DC    CL16'BURRYS'                PASSWORD
BPARML    DC    HL2'36'                     LENGTH OF PARAMETERS
BPARM     DC    CL100'ACCOUNTS:PROCESS_CUST_RECORDS;UPDATE'
BTASK     DC    PL4'1'                      INVOKING TASK ID
BINVDT    DC    CL13'0000000000000'         INVOKING DATE & TIME
BINVUID   DC    CL16'BACKGROUND'            INVOKING USER
BINVTRM   DC    CL8'NONE'                   INVOKING TERMINAL
BINVLIB   DC    CL16'CICS'                  INVOKING LIBRARY NAME
BINVPGM   DC    CL32'CUSTUPDT'              INVOKING PROGRAM
BDATAE    DS    0H                       END OF BACKGROUND DATA
```

Notice that you must supply MANTIS with a valid user name (ACCOUNTS) to sign on to, along with the password (BURRYS). Additionally, you must provide MANTIS with the name of the program to run (ACCOUNTS:PROCESS_CUST_RECORDS), and any data that you want to pass to the program (UPDATE), using the semicolon as the separator to distinguish between the program name and the data. This permits MASTER:SIGN_ON to bypass the usual user sign-on screen. (For detailed information on bypassing the usual sign-on screen, see "Customizing MANTIS sign-on, facilities, and termination" on page 83.)

Also, note that you must supply MANTIS with the actual lengths of the user ID, password, and parameters. The NAME, CLEARANCE, and PARAMETER fields are specified on the ENTRY statement of the MASTER:SIGN_ON program, and passed to CONTROL:SIGN_ON via the CHAIN statement.

MANTIS logs information about background tasks to the CSOL file (a VSAM ESDS file), where it writes the background task starting and ending message records. MANTIS will also log any error messages that occur during the execution of your MANTIS program to the CSOL file. (For more detailed information on using the CSOL file, refer to *MANTIS Administration, OS/390, VSE/ESA*, P39-5005.)

When it writes a record to the CSOL file, MANTIS fills in the BINVDT and BINVUID fields with the invoking task ID and invoking date and time stamps, respectively.

The remaining fields in this example should contain information that will identify who or what invoked the task. This information is also on the log record that is written to the CSOL file. (Option 23 on the MANTIS Utility Selection menu provides a program to display the contents of the CSOL file.)

Using LINK, START, or XCTL to access MANTIS from an external program

The only way to pass data from an external program to a MANTIS program, when MANTIS is invoked from the external program, is to use the CICS START command. However, there are several ways that an external program can LINK or XCTL to MANTIS and have the MASTER:SIGN_ON program and subsequent MANTIS application programs indirectly access data.

One way to do this is to have the MASTER:SIGN_ON program CALL an external interface program to get a user name, a password, a parameter containing the program to be executed, and (optionally) some application data.

When executed, the subsequent MANTIS program could, in turn, CALL an external interface program, or read a database to gather information. These programs would likely be associated with a terminal, and display data to a user.

Another method of getting data to, and from, MANTIS is through the CICS COMMAREA. You cannot create a COMMAREA through MANTIS, and normally MANTIS does not modify the COMMAREA, but passes it along to subsequent CICS programs which MANTIS invokes. To get data from the COMMMAREA and update the COMMAREA from a MANTIS program, you can use the special internal interface program that is supplied with MANTIS.

To do so, you create an interface design, specifying the program to be called as COMMAREA. This program is part of MANTIS and does not need to be defined to CICS or in CICS RPL libraries. Your interface layout should match the COMMAREA layout, as defined in the external program that invokes MANTIS.

The MASTER:SIGN_ON program could then use the COMMAREA interface to obtain the NAME, CLEARANCE, and PARAMETER information from the COMMAREA. A subsequent application program could obtain application data from the COMMAREA, as well. (For more information on using the COMMAREA interface, refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001.)

The MASTER:SIGN_ON program can become quite complex. It's a good idea to provide a "back door" access to the MASTER user, so that if environmental conditions change and you cannot sign on using the normal path, you have a way to sign on to the MASTER user to repair the problem.

To do so, define to CICS a reserved MANTIS transaction ID. Next, create an external interface program (below) which will return the current transaction ID to the MANTIS program. Create your MANTIS interface design, and CALL the interface program from the MASTER:SIGN_ON program if the task is not a background task (BACK$MAN) or a batch task (DUMMY).

If the transaction ID is the reserved one, CHAIN to CONTROL:SIGN_ON, with the NAME, CLEARANCE, and PARAMETER fields empty. This will display the MANTIS sign-on screen, so you can sign on to the MASTER user. (For step-by-step instructions on creating the back door access to the MASTER user, see the next section, "Step-by-step: Providing "back door" access to the MASTER user" on page 133.)

Remember to test for the proper environment before calling an interface. You can call interfaces from the background, but they must do no terminal I/O. You can also call interfaces in Batch MANTIS, but they must not be CICS programs, and they must follow standard batch operating system linkages.

Step-by-step: Providing “back door” access to the MASTER user

In this section, you will learn how to provide a special “back door” access to the MASTER user, so that if a problem arises that prevents you from signing on using the normal path, you always have a way to sign on to the MASTER user and fix the problem.

This section guides you step-by-step through the process of:

- Creating an interface program
- Creating an interface layout
- Testing the interface by creating a MANTIS program that calls the interface
- Modifying the MASTER:SIGN_ON program to call the interface

Step 1: Defining a special CICS transaction ID

Before you complete the remaining steps in this section, ask your systems programmer to create a special MANTIS transaction ID (for example, MAST) that will be known only to the systems programmer and the Master User(s).

At the same time, ask the systems programmer to define the GETTRAN assembler program (created in Step 2) to CICS.

Step 2: Creating an interface program to return the TRANSID

In this step, you will create an interface program called GETTRAN that will return the current transaction ID to a MANTIS program.

Enter the following code in a TSO library, as shown:

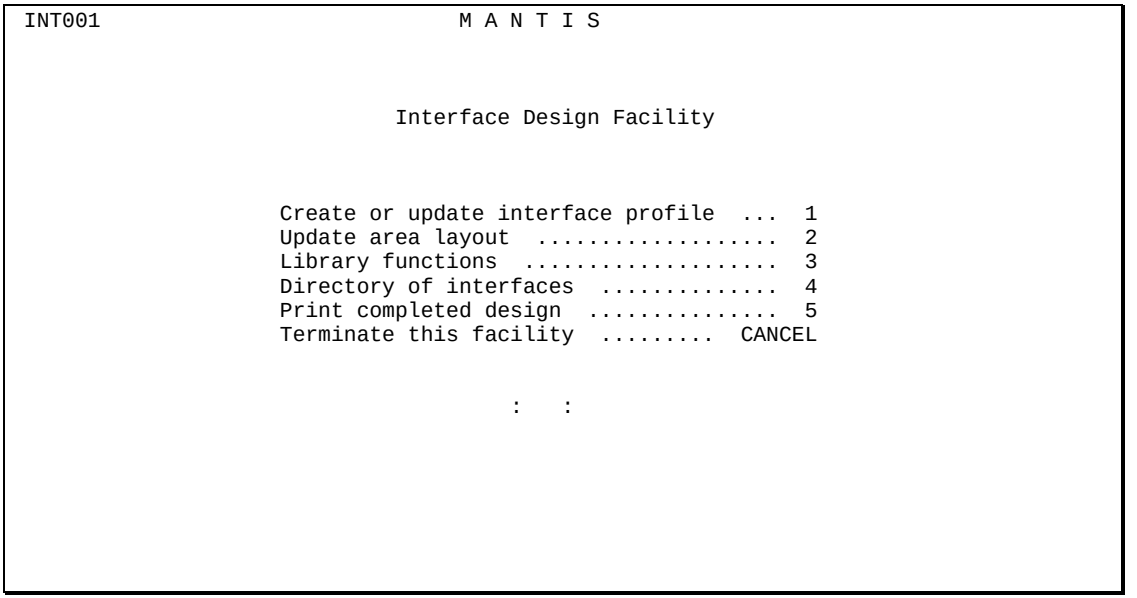
```
000100 *-------------------------------------------------------------------*
000200 *     THIS INTERFACE PROGRAM WILL RETURN THE TRANSID TO MANTIS       *
000300 *         Author          Revision             Revision Date        *
000400 *         ???????            ???                 ????????          *
000500 *                                                                   *
000600 *-------------------------------------------------------------------*
000700          ENTRY GETTRAN
000800          DFHREGS
000900 *
001000          USING FACEAREA,R6             R6 POINTS TO INTERFACE
001100 FACEAREA DSECT
001110 SAA      DS    CL8                     CICS STORAGE ACCTNG AREA
001200 STATUS   DS    CL8                     MANTIS INTERFACE STATUS
001300 TRANSID  DS    CL4
001400 *
001500          DFHEISTG
001600 *
001700 GETRRAN  CSECT
001800          B     BEGIN                   BRANCH AROUND CONSTANTS
001900          DC    0D'0'
002000          DC    CL8'GETTRAN'            EYECATCHER
002100          DC    CL8'&SYSDATE'
002200          DC    CL8'&SYSTIME'
002300 *-------------------------------------------------------------------*
002400 *       GET TRANSID FROM EIB BLOCK AND RETURN TO CALLER             *
002500 *-------------------------------------------------------------------*
002600 BEGIN    DS    0H
002700          EXEC CICS ADDRESS TWA(R5)
002800          L     R6,0(R5)                GET INTERFACE AREA ADDRESS
002900          MVC   STATUS,=CL8'FOUND'      MOVE IN FOUND STATUS
003000          MVC   TRANSID,EIBTRNID        MOVE IN TRANSACTION ID
003100 RETURN   DS    0H
003200          DFHEIRET
003300          LTORG
003400          END
```

After you enter the program, translate, assemble, and link the program into a library in the DFHRPL. To accomplish this, use the standard CICS procedures for your installation.

Step 3: Creating the GETTRAN interface profile and layout

In this step, you will create your MANTIS interface design, called GETTRAN. Interfaces provide the means of communication with programs written in languages other than MANTIS (such as COBOL or Assembler). MANTIS passes data back and forth through the interface.

To begin, sign on as the MASTER user. Then, from the Facility Selection menu, select Design an Interface by entering 8 in the action field and pressing ENTER. The Interface Design Facility menu displays:



The Interface Design Facility menu presents the options in the order in which you will perform them to create a new interface profile.

You can move among the Interface Design Facility menu options without losing the interface design currently in your work area. Remember to save your interface design or any updates via the Library functions option before exiting from the Interface Design Facility. If you attempt to exit from the facility without saving your current changes, MANTIS asks you to confirm your exit.

Your first task is to create the interface profile. Select the Create or update interface profile option from the Interface Design Facility menu by entering 1 in the action field and pressing ENTER, or by pressing PF1. MANTIS displays the Interface Design Facility screen:

```
INT002                          M  A  N  T  I  S


                          Interface Design Facility



          Name and Description        :                                  :
          :                                                              :
          Associated area Layout Name     :                              :
          Password for using  ..................... :                   :
          Program to be called  ................... :          :
          Status  ................................. :                   :
```

Enter the name of your interface (GETTRAN) in the first field, and the description of your interface (for example, GET THE TRANSACTION ID) in the second field. (The description you specify here displays in the Directory of Interfaces.)

Do not supply an entry for Associated area Layout Name. (You would supply an associated area layout name if you were using an identical area layout from another interface, but in this case you will be creating a new area layout.)

In the Password for using field, enter the password TEST. Then, in the Program to be called field, enter the program name as defined to CICS (in our example, GETTRAN).

Finally, in the Status field enter ACTIVE. If you enter anything other than ACTIVE (for example, ACTIVE0 or OBSOLETE), MANTIS prohibits all program access to this interface. Your screen should look like this:

```
INT002                          M  A  N  T  I  S

                          Interface Design Facility



          Name and Description        : GETTRAN                        :
          : GET THE TRANSACTION ID                                     :
          Associated area Layout Name     :                            :
          Password for using  ..................... : TEST             :
          Program to be called  ................... : GETTRAN  :
          Status  ................................. : ACTIVE           :
```

Press ENTER to temporarily store the data. MANTIS returns you to the Interface Design Facility menu.

Your next task is to create the interface area layout. An area layout defines the elements within an interface profile. An area layout can contain up to 254 fields, and each page displays 16 fields.

Select the Update area layout option from the Interface Design Facility menu by entering 2 in the action field and pressing ENTER, or by pressing PF2. MANTIS returns the Interface Area Definition screen:

```
 INT003  Page 1                MANTIS Interface Area Definition         YYYY/MM/DD
 Name: GETTRAN                            Element count                 HH:MM:SS
   -----M A N T I S------  -------------- Element size       ------------------
         Name       Type   Position Format Length Sign Dec  Dim Offset Attribute
-  -                       -        -      -      -    -    -   -      -








                 (Use PF1 - PF16 to page; use CANCEL to exit)
```

MANTIS supplies the Name (GETTRAN) that you specified on the Interface Design Facility screen, along with the Date, Time, Page, Element count, and Element size fields.

The underline characters in the preceding screen represent the built-in tabs for this option. Use the TAB key to move from field to field, and enter the specified data at the tab positions.

When entering or updating an element in the area layout, you must begin each line with an A, I, or D to indicate the action you want to perform (for Alter, Insert, or Delete respectively).

The interface area layout for this interface contains only one element. Follow the directions below the screen illustration to enter the specifications for this element as shown:

```
INT003  Page 1                MANTIS Interface Area Definition         YYYY/MM/DD
Name: GETTRAN                            Element count                 HH:MM:SS
  -----M A N T I S------  -------------- Element size        ------------------
        Name       Type   Position Format Length Sign Dec  Dim Offset Attribute
i  transid                 1        t      4      -    -    -   -      -

                (Use PF1 - PF16 to page; use CANCEL to exit)
```

To enter the specifications for the element:

1. Use the TAB key to move the cursor from the Page field to the first tab position on line 1.

2. Enter an i to indicate that you are inserting a new line. The cursor automatically moves to the next tab position.

3. Enter TRANSID in the Name field and press TAB to move to the Position field.

4. Enter 1 in the Position field. The position indicates the displacement (relative to 1) of the beginning of this field within the interface area. It is *not* an indication of the relative position of the field (first, second, and so on). Press TAB again to move the cursor to the Format field.

5. You can specify text, binary, floating point, packed decimal, zoned (unpacked) decimal, or Kanji (T, B, F, P, Z, or K) for the format of each element. Enter T to indicate that TRANSID has a text format; then, press TAB to move the cursor to the Length field.

6. Enter 4 in the Length field.

You do not need to specify data for the remaining fields, so press ENTER to temporarily store the data you have entered.

When you press ENTER, MANTIS accepts the data and supplies the Element count, Element size, and MANTIS data types; and expands the abbreviation in the Format field as shown:

```
INT003  Page 1                MANTIS Interface Area Definition         YYYY/MM/DD
Name: GETTRAN                            Element count  1              HH:MM:SS
  -----M A N T I S------  -------------- Element size   4    ------------------
        Name       Type   Position Format Length Sign Dec  Dim Offset Attribute
   TRANSID         TEXT   1        TEXT   4




                (Use PF1 - PF16 to page; use CANCEL to exit)
```

Press the CANCEL key to return to the Interface Design Facility menu.

Next, you must save the interface design in your library. Select the Library functions option from the Interface Design Facility menu by entering 3 in the action field and pressing ENTER, or by pressing PF3. MANTIS displays the Interface Library Facility menu:

```
INT004                          M  A  N  T  I  S

                          Interface Library Facility


            Name of interface  ..... : GETTRAN          :

                      Save  ...................  1
                      Replace  .................  2
                      Fetch  ...................  3
                      Delete  ..................  4
                      Terminate  ..........  CANCEL

                                    : 1 :
```

If there is an interface profile design currently in your work area, the name of the design displays. Select option 1, Save, by entering 1 in the action field and pressing ENTER, or by pressing PF1. (You can save an interface design only once. After that, you must use the Replace option to store any updates.)

MANTIS returns you to the Interface Design Facility menu and displays a confirmation message, indicating that the interface design has been saved.

Press the CANCEL key to return to the Facility Selection menu.

Step 4: Testing the interface

Before you modify the MASTER:SIGN_ON program to CALL the new interface, you should test the interface to be sure that it's working properly. To do so, you'll create a test program.

To begin, select the Design a Program option by entering 3 in the action field and pressing ENTER. The Program Design Facility menu displays:

```
PRGMMENU01     Program Design Facility (MASTER)            YYYY/MM/DD HH:MM:SS
===> edit gettran

Please select one of the menu items below.

    Program     Component Engineering  Bind Options    Utilities

___ 1. List      7. CEF Check          12. HPO Check   18. Audit Trail
    2. Edit      8.  "  Compose        13.  "  Bind    19. Browse Audit Trail
    3. Profile   9.  "  Decompose      14.  "  Unbind  20.    "   Prgm Profile
    4. Purge    10. CREF Programs      15. SQL Check   21. Trigger List
    5. Copy     11. Bill of Materials  16.  "  Bind    22. SQL Maint
    6. Rename                          17.  "  Unbind









FAC000I:  READY
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F9=RETRIEVE F12=CANCEL ...
```

On the command line (===>), enter the following command; then, press ENTER:

```
EDIT GETTRAN
```

An empty Full-Screen Editor work area displays:

```
EDIT L1--- MASTER:GETTRAN                                    COLUMNS  1     73
COMMAND ===>                                                SCROLL ===>   PAGE
***** ********************** START OF PROGRAM ******************************
'''''
'''''
'''''
'''''
'''''
'''''
'''''
'''''
'''''
'''''
'''''
'''''
'''''
'''''
'''''
'''''
***** ********************** END OF PROGRAM ********************************
```

The work area displays the name of the new program, and provides blank lines for you to insert the program lines.

To create the program:

1. Enter the following program statements next to the single quotes. *Do not enter line numbers*:

   ```
   ENTRY GETTRAN
   INTERFACE TRANS("MASTER:GETTRAN","TEST")
   CALL TRANS
   IF TRANS="FOUND"
   SHOW TRANSID:WAIT
   ELSE
   SHOW"NOT FOUND":WAIT
   END
   EXIT
   ```

   Use the arrow or TAB keys to move the cursor from one line to the next.

When you've finished entering the program lines, your screen should look like this:

```
EDIT L1--- MASTER:GETTRAN                                      COLUMNS  1     73
COMMAND ===> save                                               SCROLL ===>   PAGE
***** ********************* START OF PROGRAM ******************************
''''' entry gettran
''''' interface trans("master:gettran","test")
''''' call trans
''''' if trans="found"
''''' show transid:wait
''''' else
''''' show"not found":wait
''''' end
''''' exit
'''''
'''''
'''''
'''''
'''''
'''''
'''''
'''''
***** ********************** END OF PROGRAM ******************************
```

2. Press ENTER. MANTIS assigns line numbers to the lines you entered and deletes the extra blank lines and unneeded blank spaces on the panel. MANTIS also indents the program lines to indicate the logical structure of the program.

3. At the FSE command line (===>), enter SAVE and press ENTER. MANTIS saves the program in your library.

Notice that you hard-coded the library name and the password in the INTERFACE statement of the program that you just created. You must do so because, when you are signing on to MANTIS, the MASTER:SIGN_ON program executes before any user has signed on. Therefore, the implicit library name and built-in function PASSWORD would not work in this situation.

In order for your test program to work, CICS must have been shut down and restarted since the TRANSID and program were defined to CICS. Otherwise, you must use CEDA INSTALL to install the TRANSID and program.

Now, you want to run the program to test the interface. At the FSE command line, enter RUN and press ENTER. If your interface program is working correctly, MANTIS will display the transaction ID and pause:

```
MAST
```

If the program is not working correctly, MANTIS will display "NOT FOUND" and pause.

Press ENTER. MANTIS returns you to the Full-Screen Editor work area.

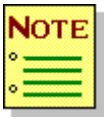
If you received a NUCPLUE error (program linking unsuccessful) when you performed the preceding steps, it is probably due to one of the following conditions:

- The interface program is not defined to CICS.
- The RDO definition has not been installed.
- CICS cannot find the program in the DFHRPL.

Remember, if CICS was not recycled after you defined the interface program, you must do a NEWCOPY to make it available.

Step 5: Modifying the MASTER:SIGN_ON program

Now that you know the new interface program is working, you're ready to modify the MASTER:SIGN_ON program to CALL the interface.



When modifying the sign-on program, leave one terminal signed-on to MASTER while you test your changes thoroughly at another terminal. The terminal signed-on to MASTER allows you to make corrections if an error occurs.

If you cannot use two terminals, back up the MANTIS Setpray cluster before you make changes. Then, if you accidentally make changes preventing you from signing on to MANTIS, you can restore the backup cluster.

To begin, at the FSE command line, enter the following statement; then, press ENTER:

```
LOAD SIGN_ON
```

MANTIS loads the SIGN_ON program into the FSE work area:

```
EDIT L1--- FSE011I:"MASTER:SIGN_ON" loaded                  COLUMNS  1     73
COMMAND ===>                                                SCROLL ===>   PAGE
***** ********************* START OF PROGRAM ******************************
00010 ENTRY SIGN_ON(NAME,CLEARANCE,PARAMETER)
i7 20 .TEXT NAME(16),CLEARANCE(16),PARAMETER(100)
00030 .|To suppress the standard MANTIS sign on procedure, pass a
00040 .|valid user name and password to the MANTIS program
00050 .|CONTROL:SIGN_ON.  You can force CONTROL:SIGN_ON to chain
00060 .|to a program of your choice, and optionally pass a parameter
00070 .|to the chained program by initializing the text
00080 .| variable PARAMETER, as shown here.
00090 .|-------------------------------------------------------**
00100 .|PARAMETER:
00110 .|
00120 .|AAAAAAAAA;BBBBBBBBB
00130 .|
00140 .|where:
00150 .|
00160 .|AAAAAAAAA   - is the program to be chained to instead
00170 .|              of the user facility program
00180 .|
00190 .|;           - is a mandatory separator if 'BBBBBBBBB' exists
***** ********************** END OF PROGRAM ******************************
```

Enter "i7" over the first two zeros in line number 00020; then, press ENTER. MANTIS inserts seven blank lines.

Next to the single quotes, enter the programming statements as shown (substituting your TRANSID for MAST, if it's different):

```
EDIT L1--- MASTER:SIGN_ON                                      COLUMNS  1     73
COMMAND ===>                                                   SCROLL ===>   PAGE
***** ********************* START OF PROGRAM ****************************
00010 ENTRY SIGN_ON(NAME,CLEARANCE,PARAMETER)
00020 .TEXT NAME(16),CLEARANCE(16),PARAMETER(100)
''''' if terminal<>"dummy" and terminal<>"back$man"
''''' interface trans("master:gettran","test")
''''' call trans
''''' if trans="MAST"
''''' chain"control:sign_on",name,clearance,parameter
''''' end
''''' end
00030 .|To suppress the standard MANTIS sign on procedure, pass a
00040 .|valid user name and password to the MANTIS program
00050 .|CONTROL:SIGN_ON.  You can force CONTROL:SIGN_ON to chain
00060 .|to a program of your choice, and optionally pass a parameter
00070 .|to the chained program by initializing the text
00080 .| variable PARAMETER, as shown here.
00090 .|-------------------------------------------------------------**
00100 .|PARAMETER:
00110 .|
00120 .|AAAAAAAAA;BBBBBBBBBB
***** ********************** END OF PROGRAM *****************************
```

Press ENTER. MANTIS assigns line numbers to the lines you entered and indents the program lines to indicate the logical structure of the program.

At the FSE command line (===>), enter REPLACE and press ENTER. MANTIS replaces the program in your library.

The code you have just entered checks to see if the task is a Batch MANTIS task (DUMMY) or a background task (BACK$MAN). If it is not, then MANTIS executes the INTERFACE statement and CALLs the interface. If the transaction ID that is returned is equal to the special transaction ID you defined, MANTIS CHAINs to the CONTROL:SIGN_ON program so that you can sign on to MANTIS.

Now, *switch to a different CICS session* and enter the special transaction ID (MAST, in our example) to ensure that the SIGN_ON program is working correctly. If you can sign on, the modified MASTER:SIGN_ON program is working correctly, and you can sign off this copy of MANTIS and end your second CICS session. You have now successfully created a "back door" access to MANTIS, so that you can always sign on in the event that a problem occurs and you cannot sign on using the normal path.

If the program is not working correctly, return to your first CICS session. Examine the code on the preceding page and make any necessary changes to the program. Then, REPLACE the program and return to the second CICS session to test your changes.

When you are finished modifying the MASTER:SIGN_ON program and have replaced your changes, press the CANCEL key twice to return to the Facility Selection menu.

Exercises

There are no exercises for this chapter.

8

Using the MANTIS Code Patch Utility

In this chapter, you will use the MANTIS Code Patch Utility to enter a patch and apply it to MANTIS source code.

Learning outline

In this chapter, you will learn how to:

- Use the MANTIS Code Patch Utility to create a patch
- View the directory of patches
- Apply a patch
- View the Cincom patch log
- Print a patch

Basic concepts: Understanding the MANTIS Code Patch Utility

The MANTIS Code Patch Utility (MCPU) allows the Master User to create, maintain, and apply patches (corrections) to MANTIS programs and other systems written in MANTIS code.

In addition, MCPU allows you to view the Cincom patch log, which lists all of the patches that have been applied to Cincom programs since the current release of the product was installed. You can also view and maintain the production patch log, which lists the patches that have been applied to production programs.

A patch can be defined for MANTIS programs in CONTROL, MASTER, or user libraries, to solve a problem that affects one or more programs.

A Cincom representative either dictates the patch definition to you over the telephone, makes it available on Cincom's FTP site, or e-mails the patch description to you. You can also get a patch from Cincom SupportWeb™. In any case, you copy the patch into MCPU.

To access the MANTIS Code Patch Utility (MCPU), sign on to MANTIS as the MASTER user, then select MANTIS Utilities (option 12) from the Facility Selection menu.

Select MANTIS Code Patch Utility (option 8) from the MANTIS Utility Selection menu. The MANTIS Code Patch Utility menu displays:

```
MCP001                    MANTIS Code Patch Utility



              Patch ID  ..................... :          :



                    Create or update a patch .................  1
                    Inspect an existing patch ................  2
                    Apply or back off patches ................  3
                    Delete patches ...........................  4
                    View Cincom patch log ....................  5
                    View production patch log ................  6
                    Maintain production patch log ............  7
                    Directory of patches .....................  8
                    Print patches ............................  9
                    Terminate this facility .............  CANCEL

                                    :    :
```

From this menu, you can access options to create, apply, back off, print, and perform maintenance functions to patches.

You can perform several of these functions from the MANTIS Code Patch Utility menu without moving from the menu. For example, when you supply a valid patch ID and select:

- Delete patches (option 4), MCPU deletes the specified patch from the patch file
- Maintain production patch log (option 7), MCPU deletes the specified patch from the log
- Print patches (option 9), MCPU prints the specified patch

MCPU asks for confirmation when deleting a patch or log entry (options 4 and 7). If you use a PF key to select the option, confirm the deletion by pressing that PF key again. If you enter a number in the action field and press ENTER, confirm the deletion by pressing ENTER again. You can cancel the deletion by pressing CANCEL in response to the confirmation message.

You can also use this menu to access an online help facility for the MANTIS Code Patch Utility. To do so, type HELP in the bottom, left corner of the screen; then, press ENTER. MANTIS displays instructions for using the MANTIS Code Patch Utility.

Assigning patch IDs

You should adopt an alphanumeric naming convention for your patches to avoid conflicts with Cincom patches. Consider that current Cincom Patch IDs are eight numeric characters long: *YYYYNNNN*, where *YYYY* represents the four digits of the current year and *NNNN* represents a number unique for each patch. Patches for releases prior to 5.5.01 use a two-digit year, *YYNNNN,* that is left-justified in the eight-character Patch ID field.

If you create your own patch with a patch ID that is a duplicate of a Cincom patch ID, your patch could be overwritten with a Cincom patch.

Understanding the patch definition

The patch definition can be up to nine pages long, with each page holding up to 15 lines. The patch definition consists of four parts:

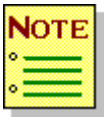
- Program name
- VER (verify) statements
- REP (replace) statements
- BIND statements

Program name

Begin the patch definition with the user and program name in the following format:

```
user:program-name/password
```

You must specify the correct program password (for example, MASTER:SIGN_ON/password). However, if the patch is being created for a program on a Cincom user ID, a password is not allowed.



After every program name, there must be a VER or BIND statement, and before every VER or BIND statement, there must be a program name.

VER and REP statements

The VER statement verifies the program line to be changed; the REP statement specifies what that program line should contain:

```
VER x y (for example: VER 320 WHILE I=LIMIT)
REP x z (for example: REP 320 WHILE I<=LIMIT)
```

In the above statements:

- ***x*** represents a valid line number in the MANTIS program, and must be followed by a blank space.
- ***y*** represents an actual MANTIS statement, or is left blank (to verify that a particular program line does not exist before you insert a new line with that line number).
- ***z*** represents the statement that replaces y, is an equal sign (=) to indicate the replacement statement is identical to *y*, or is blank (to delete *y*).

A VER statement must precede a REP statement. One of the following must follow a REP statement:

- VER statement
- BIND statement
- New program name
- The end of the patch text

Corresponding VER and REP statements must reference the same line number and cannot be split across two pages of patch text.

A patch cannot have more than one pair of VER and REP statements for a single program line, because MCPU executes all the VER statements for the program(s) in a patch before executing the REP statements,

Comments and text in quotations may be in lowercase.

VER and REP statements for long program lines can exceed 80 columns. To enter or update these long lines on an 80 column terminal, tab to the bottom, right corner of the screen, type w (for window mode), and press ENTER. Press PF11 to scroll to the right for entering VER and REP text beyond column 80 (to a maximum of 253 characters per line). Exit window mode by pressing PF9. Press ENTER after leaving window mode to save the data that you entered while in window mode.

BIND statement

You can use the BIND statement only if you have the High Performance Option (HPO). The BIND statement indicates whether the specified program should be bound or unbound. The format is:

```
BIND [OFF]
```

To bind a program, enter BIND. To unbind a program, enter BIND OFF. If a BIND statement is included in the patch text, it should always be located at the end of the patch text for each individual program. Therefore, a BIND statement must always follow a program name or a REP statement.

Do not bind or unbind programs on the CONTROL user unless specifically directed to do so by your local Cincom representative, or by a patch generated by Cincom.

Step-by-step: Using the MANTIS Code Patch Utility to apply a patch

This section guides you step-by-step through the process of creating and applying a MANTIS code patch. The patch has been sent to you via an e-mail from Cincom MANTIS Support.

The patch you will apply is patch ID 990497, which is a valid fix to a low-priority problem with the Batch Dialog Facility. Here is the text of the patch:

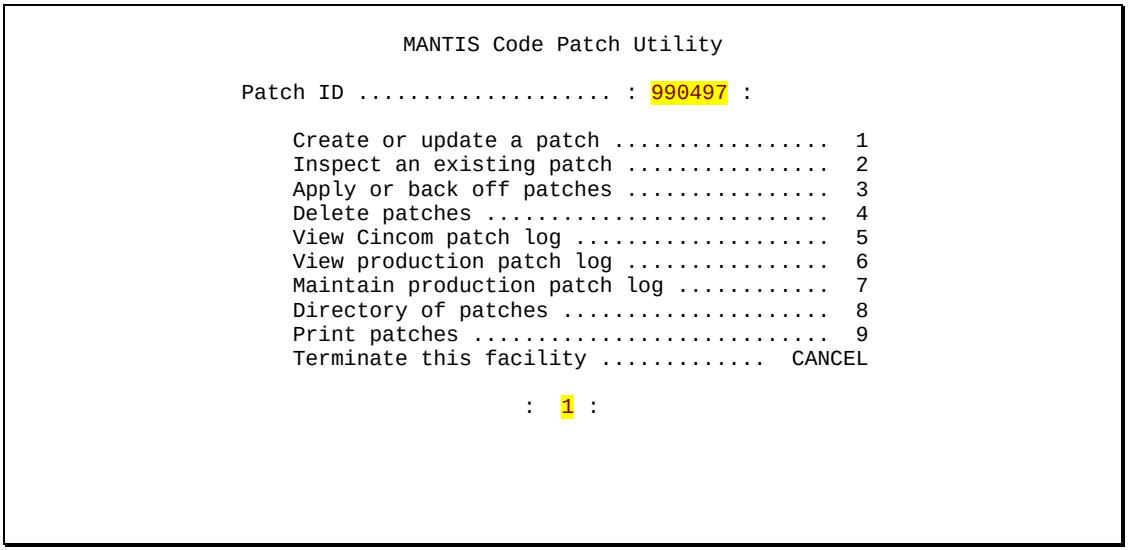
```
================================================================
                      Fix 990497 Information
================================================================
Fix Id:                 990497
Failure/Request:        34557
Fix Type:               Program Correction
Description:            LOOP WHEN PERFORMING SQLUNBIND USING BDF
       ******************************************************
       *                      WARNING                       *
       *  Patches, Source corrections, Procedures or        *
       *  Documentation changes contained in this Fix       *
       *  may NOT be complete, correct or for general use.  *
       *  Please contact your local Cincom Service Center   *
       *  before using this data.                           *
       ******************************************************
--------------------------- Environment ----------------------
Product/Release:        MANTIS              5400
Component/Release:      FACILITIES          5401
Platform:               S370
------------------------------ Symptoms ------------------------
LOOP SQLUNBIND BDF BATCH DIALOG FACILITY ADOX_PRGM_SQLUNBIND
-------------------------- Publication Text --------------------
When running the Batch Dialog Facility to perform an SQLUNBIND
function on a program, the batch job loops endlessly.
--------------------------- Instructions ----------------------
Apply using MANTIS Code Patch Utility (MCPU) with a product code
of MN5401.
```

```
------------------------ Begin Fix Component --------------------
Fix Number:              990497
Type:                    MCPU
Entity Name:             ADOX_PRGM_SQLUNBIND
Release:                 5401
Entity Section:
Entity Id:
Library Name:            VPF
---------------------- Fix Component Source Data ---------------
VPF:ADOX_PRGM_SQLUNBIND
VER 6790 IF CSIP_RETURN_CODE=""
REP 6790
VER 6930 'AND DISPLAY_STATUS
REP 6930 'AND DISPLAY_STATUS AND CSIP_RETURN_CODE=""
VER 9940 END
REP 9940
-------------------- End of Report for Fix 990497 ---------------
```

Step 1: Creating the patch

The Create or update a patch option lets you define a new patch. You can also use this option to update an existing patch for your production system, as long as the patch is not currently applied to the system.

To create the new patch, enter 990497 in the Patch ID field on the patch utility menu, then enter 1 in the action field as shown:



Press ENTER. The following screen displays:

```
MCP002        Patch: 990497   APMS: N  Req: Y   Created: YYYY/MM/DD          Page: 1
   Product Codes:

 SD:

 Prerequisite Patches:









 MCP071A:ENTER=Update   F1=Help   F8=Detailed Description   CANCEL=Terminate
```

If you want to access the help facility that is available for this screen, type HELP in the bottom, left corner of the screen and press ENTER, or press PF1. MANTIS will display instructions for creating or updating a patch.

The Patch field displays the patch ID that you provided on the patch utility menu. The APMS field displays Y if the patch was distributed by Cincom, or N if it was not. The Created field displays the date when the patch was created, or the current date if you are creating a new patch.

The Page field specifies the current page number of the patch (1-15). MCPU supplies the first page number (1) for the patch. To add another page when the first page is full, press ENTER to store the patch text for the current page. Then, overtype the Page field with the next consecutive number and press ENTER. The pages must be consecutive; that is, if the last page is currently page 2, the next page must be page 3.

When you enter the Create or update a patch option, the cursor is in the Product Codes field. This field identifies the product(s) to which the patch is applied. Referring to the text of the patch (in the Instructions section), you see that the product code for the patch is MN5401. Enter this product code in the Product Code field; then, press the TAB key until the cursor is in the SD field.

The SD field contains the short description for the patch, which is a required field. The short description is limited to one line only, and you can update this field only on page 1 of the patch.

Again referring to the patch text (in the Description field of the Information section), you see that the short description for this patch is LOOP WHEN PERFORMING SQLUNBIND USING BDF. Enter this short description in the SD field. (The short description you enter here displays on the patch log and the directory of patches.)

The Prerequisite Patches field specifies the IDs of any prerequisite patches. There are no prerequisites for this patch, so leave this field blank. Press the TAB key to move the cursor through the prerequisite patch fields, until the cursor is on the first tab position *below* the Prerequisite Patches heading. This is where you will begin to enter the patch definition.

At this point, your screen should look like the following illustration (the underline indicates the first position of the patch definition area):

```
MCP002        Patch: 990497   APMS: N  Req: Y   Created: YYYY/MM/DD          Page: 1
   Product Codes: MN5401

 SD: LOOP WHEN PERFORMING SQLUNBIND USING BDF

 Prerequisite Patches:

 _









 MCP071A:ENTER=Update   F1=Help   F8=Detailed Description   CANCEL=Terminate
```

If you had a machine-readable version of the patch, you could simply copy the entire patch text and paste it into the patch definition area, but for this example, you will type the patch text.

You begin the patch definition by supplying the first program name. You can supply multiple program names within one patch because a patch can affect several programs. For example, a patch can consist of a program name, one VER statement and one REP statement, and another program name with two VER statements and two REP statements.

Referring to the patch text (in the Fix Component Source Data section), you see that this patch affects only one program, VPF:ADOX_PRGM_SQLUNBIND. Enter this program name on the first line of the patch definition area; then, press the TAB key to move the cursor to the next line. Your screen should now look like this:

```
MCP002        Patch: 990497   APMS: N  Req: Y   Created: YYYY/MM/DD          Page: 1
   Product Codes: MN5401

 SD: LOOP WHEN PERFORMING SQLUNBIND USING BDF

 Prerequisite Patches:

 VPF:ADOX_PRGM_SQLUNBIND
 _









 MCP071A:ENTER=Update   F1=Help   F8=Detailed Description   CANCEL=Terminate
```

Directly below the program name in the patch text, you'll see three sets of VER and REP statements:

```
VER 6790 IF CSIP_RETURN_CODE=""
REP 6790
VER 6930 'AND DISPLAY_STATUS
REP 6930 'AND DISPLAY_STATUS AND CSIP_RETURN_CODE=""
VER 9940 END
REP 9940
```

Enter these statements in the patch definition area, placing the first VER statement directly below the program name. Place one VER or REP statement on each line, using the TAB key to move from the end of one line to the beginning of the next. When you are finished, your screen should look like this:

```
MCP002        Patch: 990497   APMS: N  Req: Y   Created: YYYY/MM/DD          Page: 1
   Product Codes: MN5401

 SD: LOOP WHEN PERFORMING SQLUNBIND USING BDF

 Prerequisite Patches:

 VPF:ADOX_PRGM_SQLUNBIND
 VER 6790 IF CSIP_RETURN_CODE=""
 REP 6790
 VER 6930 'AND DISPLAY_STATUS
 REP 6930 'AND DISPLAY_STATUS AND CSIP_RETURN_CODE=""
 VER 9940 END
 REP 9940









 MCP071A:ENTER=Update   F1=Help   F8=Detailed Description   CANCEL=Terminate
```

When you are finished entering the patch definition, press ENTER to save the patch text. MANTIS displays a confirmation message, indicating that page 1 of the patch has been inserted.

Remember to press ENTER to save or replace your updates before pressing CANCEL to exit and return to the MANTIS Code Patch Utility menu. If you do not press ENTER first, your updates will be lost.

Press the CANCEL key to return to the patch utility menu.

Step 2: Viewing the directory of patches

The Directory of patches option displays a list of all the patches on the patch file. (All production and Cincom patches are stored on the patch file.)

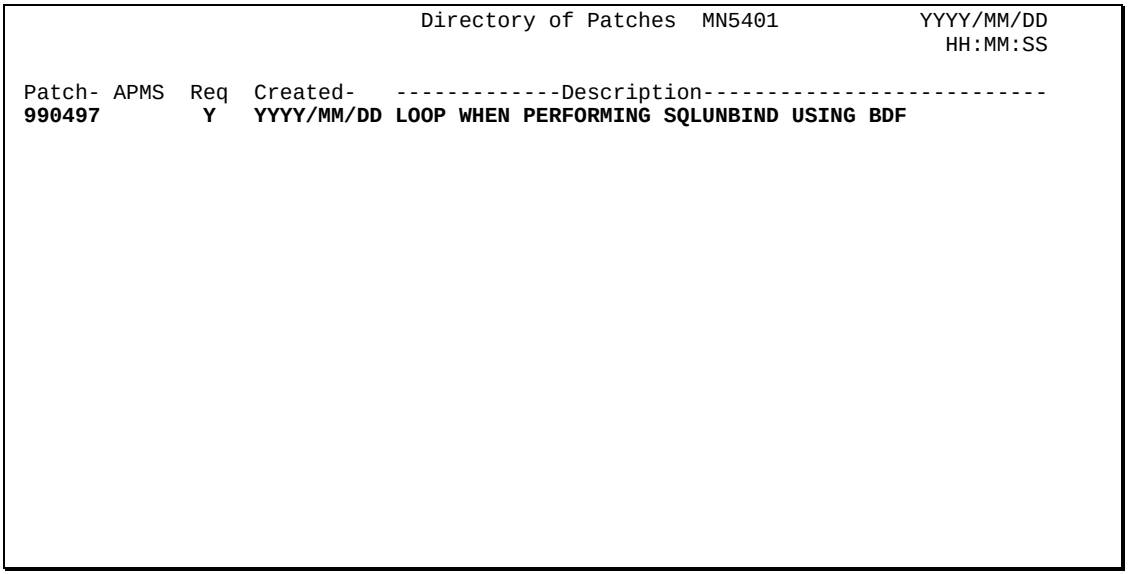
Press PF8 to select this option. The following screen displays:

```
MCP009                       MANTIS Code Patch Utility

                              Directory of Patches

 Product code  ............. :        :
 Starting date (YYYYMMDD)  . :          :
 Ending date (YYYYMMDD)  ... :          :
```

You can specify three optional selection criteria on this screen to limit the set of patches that MCPU displays from the directory. If you specify no selection criteria, MCPU displays the entire directory of patches.

Enter the product code (MN5401) for the new patch in the Product Code field; then, press ENTER.

MANTIS displays the directory of patches for product code MN5401, including the patch that you just created:



This directory displays a listing, in numeric order, of all the patches that are currently on the patch file. To scroll through the list, press ENTER.

You can also use the repoint option to view a particular patch. In the bottom, left corner of the screen type 1-6 characters (representing a patch ID or the first part of a patch ID), and press ENTER. MCPU displays the directory list beginning with the entry corresponding to, or the first entry following, your repoint value.

You can also specify that the directory list should include a particular set of numbers. To specify a range of patch IDs, tab to the bottom, left corner of the screen and enter starting and ending patch IDs, separated by a colon (for example, 991000:201305).

To search for a set of patch IDs corresponding to a particular pattern of characters, use the following in the repoint field:

- * represents an indefinite number of generic characters. For example, *2* displays a list of patch IDs containing the number 2.
- ? represents a single generic character. 99???? designates a patch ID that begins with the number 99 and ends with any 4 characters.

The directory list includes the following fields:

- **Patch.** The patch ID.
- **APMS.** The patch originator. Yes if on an APMS tape created by Cincom; blank if not.
- **Req.** The required patch indicator. Yes if required; blank if not.
- **Created.** The date the patch was created.
- **Description.** The short description.
- **Product Code(s).** The product codes for which the patch was created.

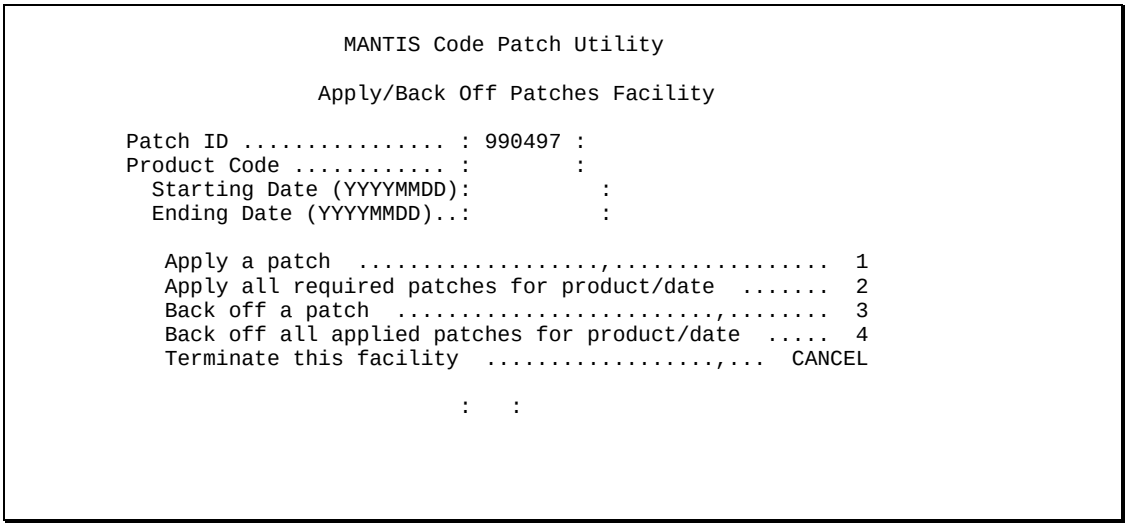
On a standard-sized terminal, the directory extends beyond the physical screen size. To view the complete short description and up to four product codes, tab to the bottom, right corner of the directory screen, enter a w (for window mode); then, press ENTER. Press PF11 to scroll to the right. (You must exit window mode by pressing PF9 to continue scrolling through the directory.)

Press the CANCEL key to exit from this directory and return to the patch utility menu.

Step 3: Applying the patch

The Apply or back off patches option allows you to apply a patch to your MANTIS system, apply all required patches for a specific product, back off (remove) a patch from your MANTIS system, and back off all applied patches for a product. You will use this option to apply the patch that you just created.

Press PF3 to select this option from the patch utility menu. The following screen displays:



Since you supplied the patch ID on the patch utility menu, MANTIS displays it on this screen.

When you specify a patch ID and select the Apply a patch option, MANTIS checks that the specified patch is not already applied, and that all prerequisite patches are applied. If so, MANTIS applies the patch.

If the patch is already applied, MANTIS displays a message saying so. To reapply the patch, type “override” at the bottom, left corner of your screen; then, press ENTER. MANTIS tries to apply the patch and displays either a message indicating that the patch was applied successfully, or the line of the patch text that failed to be applied.

If a program was bound before the patch was applied, and the patch does not contain a BIND or a BIND OFF statement, MANTIS rebinds the program after applying the patch.

Press PF1 now to apply patch 990497. MANTIS displays a confirmation message indicating that the patch was successfully applied.

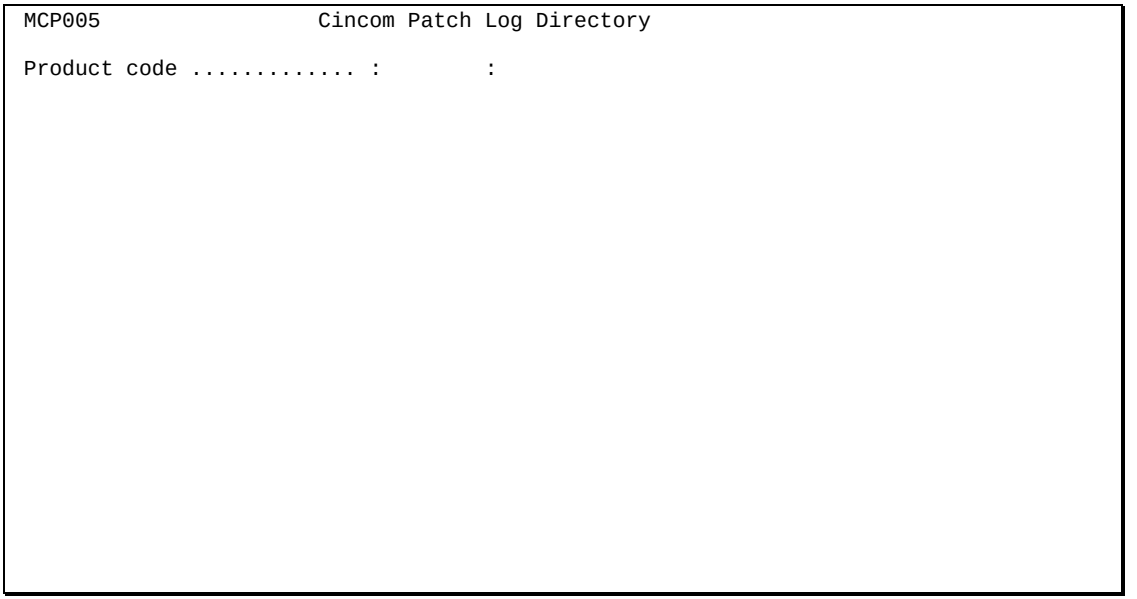
If the patch fails to apply, you have probably incorrectly typed a VER statement. If so, return to the Create or update a patch option and correct the erroneous VER statement.

Press the CANCEL key to return to the patch utility menu.

Step 4: Viewing the Cincom patch log

The View Cincom patch log option displays information on patches applied to Cincom programs. Cincom maintains this log, which may be cleared for a product code each time a new release of a Cincom product containing MANTIS is installed.

Press PF5 to select this option from the patch utility menu. The following screen displays:



You can specify a product code on this screen to limit the set of patches that MANTIS displays on the Cincom patch log. If you specify no product code on this screen, all patches on the Cincom log display.

Enter the product code (MN5401) for the new patch in the Product code field; then, press ENTER.

MANTIS displays the Cincom patch log for product code MN5401, including the patch that you just created:

```
                 Cincom Patch Log For Product Code:  MN5401        YYYY/MM/DD
                                                                    HH:MM:SS

Patch- APMS Appl ---------Description-----------------------------------------
990497       Y   LOOP WHEN PERFORMING SQLUNBIND USING BDF
```

The patch log displays a list, in numeric order, of all the patches that have been applied to Cincom programs since the current version of the product was released. (You may see more than one patch on the log at your site.) To scroll through the list, press ENTER.

You can also use the repoint option to view a particular patch, as you can for the directory of patches. To do so, in the bottom, left corner of the screen type 1-6 characters (representing a patch ID or the first part of a patch ID); then, press ENTER. MCPU displays the patch log beginning with the entry corresponding to, or the first entry following, your repoint value.

You can also specify that the patch log include a particular set of patch IDs. To specify a range of patch IDs, tab to the bottom, left corner of the screen and enter starting and ending patch IDs separated by a colon (for example, 981000:992000).

To search for a set of patch IDs corresponding to a particular pattern of characters, use the following in the repoint field:

- * represents an indefinite number of generic characters. For example, *2* displays a list of patch IDs containing the number 2.
- ? represents a single generic character. 99???? designates a patch ID that begins with the number 99 and ends with any 4 characters.

The patch log includes the following fields:

- **Patch.** The patch ID.
- **APMS.** The patch originator. Yes if on an APMS tape created by Cincom; blank if not.
- **Appl.** The patch applied field. Yes if applied; blank if not.
- **Description.** The short description.
- **Applied.** The date the patch was applied.
- **Backed off.** The date the patch was backed-off.

On a standard-sized terminal, the log extends beyond the physical screen size. To view the complete short description and the Applied and Backed off fields, tab to the bottom, right corner of the screen, enter a w (for window mode); then, press ENTER. Press PF11 to scroll to the right. (You must exit window mode by pressing PF9 to continue scrolling through the patch log.)

Press the CANCEL key to exit from this log and return to the patch utility menu.

Step 5: Printing the patch

The Print Patches option provides a hard copy of a patch, a set of patches, a log, or a directory. MANTIS routes a copy of the item(s) to your designated printer. Depending on your printer specification, the printout varies in width (80 vs. 132 columns).

Press PF9 to select this option from the patch utility menu. The following screen displays:

```
                    MANTIS Code Patch Utility

                      Print Patches Facility

Patch ID ............... : 990497 :
Product code ............ :        :

    Print a patch ..................................  1
    Print all patches for a product code ...........  2
    Print all patches on the patch file ............  3
    Print directory of patches .....................  4
    Print Cincom patch log .........................  5
    Print production patch log .....................  6
    Terminate this facility ...................  CANCEL

                              :   :
```

If you want to use the help facility, type HELP in the bottom, left corner of the screen and press ENTER. MANTIS displays instructions for using the options on this screen.

When you specify a valid patch ID and select Print a patch (option 1), MANTIS prints a copy of the patch. Do not specify a Product Code when you want to print a single patch.

Press the CANCEL key to return to the patch utility menu; then, press the CANCEL key twice to return to the Facility Selection menu.

Exercises

There are no exercises for this chapter.

9

What's next?

You've now completed a basic course in MANTIS administration. What's your next step?

- Do not hesitate to go back and redo any of the lessons or exercises, especially those that seemed difficult to you. You will be surprised how much easier they are the second time through.

- For more information, refer to the following manuals:

  - *MANTIS Administration, OS/390, VSE/ESA*, P39-5005—More information on MANTIS administration.

  - *MANTIS Application Development Tutorial, OS/390, VSE/ESA*, P39-5026—Introduction to using the MANTIS design facilities and creating basic programs using the MANTIS language.

  - *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001—More detailed information on the MANTIS design facilities, including screen design, file design, etc.

  - *MANTIS Language, OS/390, VSE/ESA*, P39-5002—Detailed information on MANTIS programming statements and functions.

  - *MANTIS Messages and Codes, OS/390, VSE/ESA*, P39-5004—Detailed explanations of MANTIS messages.

  - *MANTIS Program Design and Editing, OS/390, VSE/ESA*, P39-5013—Detailed information on creating MANTIS programs.

Index

F

G

H

I

L

M

N

O

P

R

S

T

U

V

W